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OFFICE OF THE VICE PRESIDENT—
HEALTH AFFAIRS

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May 4, 2007

Ms. Marlene Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

RE: WC Docket No. 02-60

Dear Ms. Dortch:

The University of California is pleased to submit this application on behalf of the State of California for funding to support a proposed new statewide California Telehealth Network in response to the Federal Communication Commission's Order for the Rural Health Care Support Mechanism (FCC 06-144) released on September 29, 2006 (WC Docket No. 02-60).

If you have questions about the application feel free to contact me at (510) 987-9705 or Dr. Thomas Nesbitt, M.D., Executive Associate Dean at the UC Davis Health System (916) 734-1358.

Respectfully submitted on behalf of the University of California,

Cathryn L. Nation, M.D.
Executive Director—Health Sciences
UC Office of the President

Governor Schwarzenegger
UC President Dynes
UC Provost Hume
UC Davis Chancellor Vanderhoef
UC Davis Dean Pomeroy
UC Davis Executive Associate Dean Nesbitt

Before the

Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Rural Health Care Support Mechanism	)	WC Docket No. 02-60

California Telehealth Network Proposal

Submitted By:

The University of California
Office of the President
1111 Franklin Street, Oakland, CA 94607

May 7, 2007

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GOVERNOR ARNOLD SCHWARZENEGGER

May 3, 2007

The Honorable Kevin J. Martin
Chairman
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: *California Application to FCC on Telemedicine Grant*

Dear Mr. Chairman,

As Governor of the State of California, I am pleased to endorse the University of California's application for the Federal Communications Commission Rural Health Care Pilot Program (FCC Pilot Program).

The accelerated deployment of broadband telecommunication technologies in California, specifically for use in telemedicine, is one of the top priorities of my administration. The FCC Pilot Program will complement and add great value to our State's Health Information Technology and Broadband Initiatives, which encourage public and private sector stakeholders to join with California's rural health care providers in developing a statewide telemedicine network.

The University of California will bring considerable resources to this effort. The UC Davis Center for Health and Technology is a national leader in the field of telemedicine and was recently awarded the prestigious "President's Award" by the American Telemedicine Association. Based in large part on UC's tremendous academic reputation, California voters approved $200 million in resources last November that allowed the University to bring cutting-edge telemedicine training to expanded numbers of UC medical students.

Together with an investment from the California Emerging Technology Fund, these resources will enable California to better leverage the FCC's investment and help make quality health care more accessible to Californians living in rural areas. A successful implementation of the FCC Pilot Program in California will ultimately assist the FCC in bringing the benefits of broadband connectivity to healthcare providers and patients in rural areas across the nation. By linking them to California providers, including the world-class faculty at UC medical schools, rural areas throughout the country would have improved access to the newest treatments and techniques.

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Please consider the submission from the University of California as the state's application to the FCC Pilot Program. Beyond the University's groundbreaking work in the area of telemedicine, UC has an unmatched track record in successfully collaborating with public and private sector partners to produce forward-looking research and drive new technologies to market.

Thank you for your consideration of this application. We appreciate the opportunity to compete for federal funds that will provide much-needed assistance to those living in California's rural areas.

Sincerely,

Arnold Schwarzenegger

/bp

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Rural Health Care Support Mechanism	)	WC Docket No. 02-60

The California Telehealth Network Proposal

Introduction

The University of California is pleased to submit this application on behalf of the state of California for funding to support the statewide California Telehealth Network (CTN), pursuant to the Federal Communications Commission's (FCC) Order, in the matter of the Rural Health Care Support Mechanism, FCC 06-144, September 29, 2006, ("Order").

The submission of this application in itself marks an important milestone for California's expanding statewide telemedicine efforts. As a result of the FCC's Order, a working group including major California institutions and stakeholders was formed and united with the common goal of creating a forward-looking, state-of-the-art telehealth network for California. This group includes California leaders and representatives of multiple offices and organizations, including the Office of Governor Arnold Schwarzenegger, several major state governmental entities responsible for health, business and telecommunications matters, the University of California (Office of the President and UC Davis Health System, as joint partners), non-profit organizations such as the California Emerging Technology Fund (CETF), and California public and non-profit health care providers, including existing regional rural health networks.

In response to the FCC's vision for developing a "ubiquitous nationwide broadband network dedicated to health care" that could "provide a rapid and coordinated response in the event of a national crisis," the above-named groups are working to forge new relationships that will support the successful development of a new statewide broadband telehealth network for California. As part of this effort, we have also worked together to seek additional sources of funding for the proposed network and to join together in preparing and supporting this application.

The California Context. California is often referred to as a "nation state" given its population of over 37 million people, and its vast geographic size (over 155,000 square miles) containing terrain that varies from steep mountains, to deserts, to agricultural valleys and delta farmland. The state has heavily urban areas such as Los Angeles, and the Greater San Francisco Bay Area, and San Diego, but the vast majority of the

land area of California is rural, and includes small towns in remote places that lack access to broadband networks and the full spectrum of health services that are readily available in the large urban areas of the state.

California is home to the Silicon Valley, Hollywood, the music industry, key West Coast ports, and a vital agricultural, fish, and wine industry. We have the most diverse population of any state, with both the benefits and challenges of multiculturalism, particularly as these relate to improving access to care for medically underserved groups and communities. With more than 5,700 licensed health care facilities statewide, our challenges are vast in attempting to achieve our vision for a statewide broadband network for health care.

Application Overview. While this application seeks to be as comprehensive as possible within the time constraints allowed, we understand that "the devil is in the details" and are prepared to continue with a focused planning process should our proposal be selected and approved for FCC funding. As part of these efforts we would engage immediately in a detailed planning phase to build upon the work already undertaken and to creatively and competitively address the many technical and programmatic details that will be required for success of the overall project.

Within this brief and introductory context, this application proposes development of a new network that will connect a total of 319 California health care sites. As envisioned, this includes a goal of connecting 126 sites in Year One, 89 sites in Year Two, and 104 sites in Year Three. Among these are 256 Rural Urban Commuting Areas (RUCA) clinic sites; 154 primary care clinics; 22 tribal clinics; 81 rural hospitals; 26 teaching hospitals, and one psychology clinic. Of these, 203 are located in designated Health Professional Shortage Areas (HPSAs). The sites are geographically distributed across California's 12 major regions, with an emphasis on underserved areas as designated by state and federal agencies.

Organization of the Application. The remainder of this application is organized in 11 sections, enumerated according to requirements specified in the FCC Order. As the proposal is reviewed, we hope the FCC will consider the unique and considerable challenges that California faces in improving access to health services across the state, as well as the shared commitment of our partnering organizations for building a new and innovative network dedicated to meeting current and future health needs.

1. Legally and Financially Responsible Organization

The University of California (UC), governed by a 26-member Board of Regents, will be legally and financially responsible for the implementation of the activities proposed in this application. The University of California Office of the President (UCOP) and the UC Davis Health System (UCDHS) will share responsibility for the management of the project and the development of the proposed new statewide network. The UC Office of the President, located in Oakland, California, will manage the overall grant, provide information required by the FCC as part of the grant, and facilitate the activities of partnering organizations and entities as outlined in the application. The UCDHS will serve as the technical network lead and provide the expertise necessary for assuring the successful development of new telemedicine programs statewide.

The UC Office of the President oversees and supports the activities of the 10-campus system, including undergraduate and graduate academic affairs, state and federal governmental relations, state and federal budget matters, legal issues, health sciences and clinical services, and the overall business and financial affairs of the system. The Office of the President manages the three national labs and oversees statewide agricultural and natural resources services based in all of California's 58 counties. The UC system operates the largest health sciences instructional program in the nation, annually enrolling more than 13,000 students in fifteen schools located on seven UC campuses. These programs generate more than one billion dollars annually in research funding and provide an extensive array of primary care and specialty services to millions of Californians each year. The University of California is statutorily designated as California's research university and has a long history of accountability and responsibility for management of both systemwide and statewide initiatives. The total General Fund (state-funded) budget for current operations in 2006-07 is more than $3.6 billion.

The UCDHS, located approximately 85 miles northeast of Oakland, will serve as the lead technical entity for the network. UCDHS has extensive experience in telehealth and continues to receive national recognition for the breadth, depth, and quality of its programs. In 2006, UCDHS's Center for Health and Technology (CHT) was awarded the American Telemedicine Association's President's Award for their advancement of telemedicine; breadth of telemedicine services; and effectiveness at improving the health of rural Californians. The UCDHS Telemedicine Program provides direct clinical care to patients at a distance through a variety of innovative telemedicine applications, including video-based consultations, emergency room and intensive care consultation, video-interpreting, quality assurance for sexual assault exams, telepharmacy, home telehealth, and store-and-forward services such as pediatric telecardiology. On an ongoing basis, UCDHS collaborates with a range of professionals including physicians, educators, information technology and communications specialists, scientific engineers and researchers to develop and evaluate information and telecommunications technologies that improve access to high quality patient care, information resources, and Continuing Medical Education (CME). Consultation services are available in more than forty specialties serving over 125 sites, approximately 85 of which are located in (or provide services to) rural areas. The UCDHS Telemedicine Learning Center's training program has educated approximately 1,200 health care professionals and executives. The Distance Education Program coordinates videoconferencing sessions among UCDHS clinical departments and affiliated programs and professionals throughout Northern California, the United States, and internationally.

2. Goals and Objectives of the Proposed Network

California is seeking participation in the FCC Rural Health Care Pilot Program to create a sustainable statewide network that provides rural California communities with access to a wide range of telemedicine and eHealth activities. The long-term vision for the state will be to develop an effective and forward-looking infrastructure that begins with a focus on rural communities and is subsequently expanded statewide to serve all California health providers. Participation in the proposed network will give rural facilities access to a broad range of health services, thereby providing significant near-term benefits to these communities.

While the overall vision is to create a ubiquitous statewide network, California's partnering institutions recognize the need to work toward this goal in phases. Given the state's large size and the challenges posed by geography and terrain, the pilot proposes an initial focus on 319 rural sites over a three-year period. Strong emphasis will be placed on infrastructure development, telecommunications quality and technical support, rather than mass deployment of older legacy technologies. Quality and reliability of the connections, rather than volume of sites connected, will be given highest priority during the early stages. Consistent with these goals, the project would first link six existing rural telemedicine networks together, including: the Central Valley Health Network, Community Clinics Health Network, Northern Sierra Rural Health Network, Open Door Community Health Network, Southern Sierra Telehealth Network, and the Indian Health Service. Thereafter, additional sites that lack connectivity and expertise with telemedicine would be added. These sites are located in areas that have shortages of health professionals and insufficient broadband penetration, including California's Central Valley, North Coast, and the Riverside-Imperial-San Diego County regions (see Section 6).

The initial number of sites selected is expected to be sufficient for identifying problem areas and regional challenges, yet at the same time be small enough to allow successful resolution of problems during the pilot phase. During each year of the project we expect to gain significant experience regarding how to best connect sites, train personnel, and resolve technical issues. This approach should also allow development and fine tuning of the protocol for connecting diverse new sites to the network in future years. We believe that the proposed total of 319 sites over a three-year period is a challenging yet achievable goal that would result in significant improvements in access to health services statewide. Throughout the project, both formative and summative evaluations will be performed. Results will be used to shape and refine the structure and function of the network, and to assess its overall impacts on delivery of telemedicine and telehealth services statewide. An in-depth discussion of the goals and objectives for the project, and an overview of the proposed design of the network are provided in the text that follows.

Goals and Objectives

California's rural residents are older, poorer, and have dramatically fewer health resources than their urban counterparts. Scarcity of physician distribution, coupled with climatic, topographic, and distance factors, isolates rural residents from accessible and available services.

- State of California Website

Goal One

Create a statewide broadband network dedicated to health care, connecting public and non-profit health care providers in California's rural and urban areas, and bringing the benefits of telemedicine to the areas of California where the needs are most acute

The proposed California Telehealth Network (CTN) is intended to improve access in rural and underserved areas to high quality, collaborative health services. The network will link California's rural health facilities to academic centers of excellence and to other non-profit and for-profit health providers. The CTN will also serve as a resource for emergency services and disaster preparedness. Objectives include:

- Building upon existing telemedicine networks and connecting health care providers who are currently unconnected to telemedicine services;
- Increasing the bandwidth capacity and number of telemedicine connections between California's health providers; and
- Creating a network that provides state-of-the art technology and security; high levels of reliability, scalability, and flexibility, and improved telecommunications quality for rural health providers.

California's Population and Geography. California is the most populous state in the country, with over 37 million residents representing 12% of the total U.S. population. According to the California Rural Health Policy Council, 92% of California's landmass is rural, but only 8% of the state's population (2.96 million) live in rural areas. Californians living in rural areas tend to have higher rates of unemployment and lower rates of health insurance coverage than their urban counterparts.

Immigration to California has increased dramatically in the last three decades. Approximately 1.45 million of the state's more than 3.8 million immigrants arrived within the last 16 years, including a large number who are agricultural workers. Hispanics will become the majority population in the state by 2040. California has the second-largest Asian population of any state and is home to the largest number of Native Americans in the country. More than 200 languages are spoken here, creating numerous challenges for assuring effective delivery of health services.

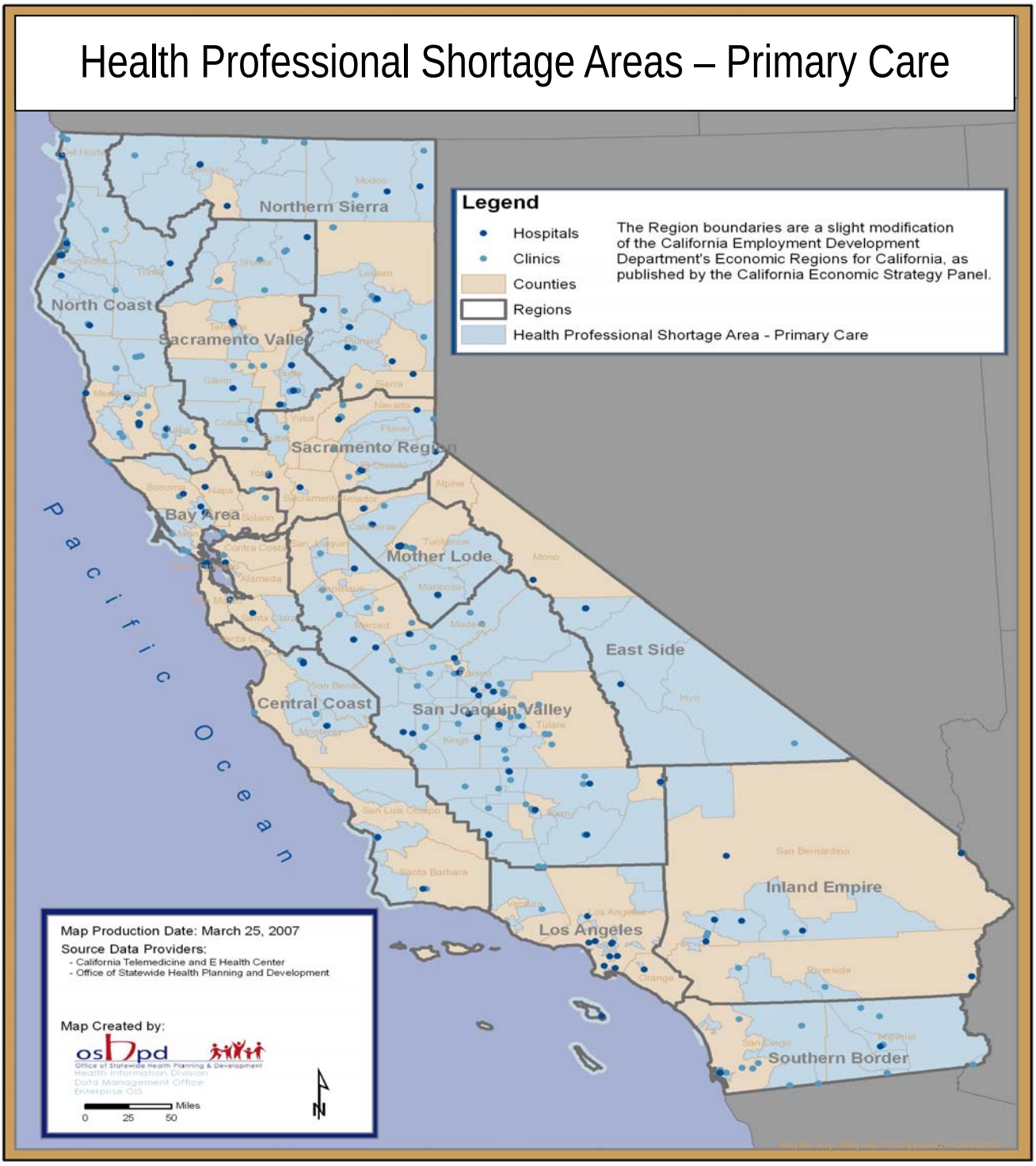
Rural Health Profile. Californians in rural areas suffer from more chronic conditions (including diabetes, hypertension, cardiovascular disease, asthma, and depression), are in poorer health, and experience more injuries than do those in urban and suburban areas. Those living in poverty are more likely to engage in unhealthy behaviors including smoking and physical inactivity, leading to obesity and other health problems. Patients in small rural towns may be particularly reluctant to seek local care for mental illnesses,

HIV/AIDS, or other "stigmatized" illnesses. With the growing exodus of seniors moving from cities to rural communities, problems magnify as increasing numbers of aging Californians report poorer health outcomes. Geographic isolation and lack of public transportation pose further barriers to access. Because rural Californians may face hours of driving to reach any health facility, they are often less likely to seek preventive care and more likely to wait until their illness is severe before seeking help.

Challenges to Providing Telecommunications and Telemedicine to Rural California. Beyond financial and rate-related constraints, and difficulties in securing the participation of specialty providers, the barriers to expanded use of telecommunications in rural California currently include limited staff expertise and understanding of telecommunications and networks; limited ability to manage the technologies once they are put in place; limited technical support hours (typically limited to Monday through Friday during business hours); staff turnover; and the significant amount of paperwork required. For rural health providers to effectively participate in telemedicine, a reliable and well-supported infrastructure must be developed that recognizes and addresses the need for infrastructure management, technical support, and financial sustainability.

California's Health Infrastructure and Its Challenges. California has 531 hospitals, including 26 teaching hospitals (the five medical centers of the University of California; Stanford; University of Southern California, and 19 others). There are 81 hospitals in Rural Urban Commuting Area (RUCA)-defined sites. In addition to these hospitals, the state has 916 primary care clinics of which 154 are located in FCC designated rural areas. Fifty-three of California's 58 counties have at least one federally-designated Health Professional Shortage Area for Primary Care (HPSA-PC).

In even shorter supply are primary care providers who are willing to care for new Medi-Cal and other low-income patients. Shortages of medical specialists are increasing across California and are particularly acute in rural communities. Many physicians are not willing to locate in areas that do not have specialty backup. The proposed California Telehealth Network will increase access to bandwidth offering a seamless and secure means for providing a range of critically needed health services using a sustainable, cost-effective model for connecting specialists to rural areas.


Health Professional Shortage Areas – Primary Care
Legend
Hospitals
Clinics
Counties
Regions
Health Professional Shortage Area - Primary Care
The Region boundaries are a slight modification of the California Employment Development Department's Economic Regions for California, as published by the California Economic Strategy Panel.
Northern Sierra
North Coast
Sacramento Valley
Sacramento Region
Bay Area
Mother Lode
East Side
Central Coast
San Joaquin Valley
Inland Empire
Los Angeles
Southern Border
Pacific Ocean
Map Production Date: March 25, 2007
Source Data Providers:
- California Telemedicine and E Health Center
- Office of Statewide Health Planning and Development
Map Created by:
Miles
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Goal Two

Link the California Telehealth Network to a nationwide backbone, creating greater access for the state's health care providers to continuing education, research, and peer networking

Objectives include:

- Linking new providers and existing California telehealth networks to the National LambdaRail and Internet2 systems pursuant to the FCC's Rural Health Care Pilot Program Order;
- Increasing opportunities for distance learning programs and research available to rural and remote providers;
- Increasing professional networking and peer support for medical providers; and
- Creating opportunity for continuity of operations in the event of a localized terrestrial network outage.

These objectives address the FCC's laudable goal of connecting all health care providers to the National LambdaRail and Internet2 systems. Many educational benefits would flow from interconnection of these systems, including: improved access to specialty consultations and backup for rural providers; improved ability to train medical students, nurses, and other health professionals in telemedicine applications; and expanded access to continuing education for California health care providers. Although all licensed medical providers are required by law to complete a specified number of Continuing Medical Education (CME) credits each year, the travel time required for rural providers to meet these requirements takes considerable time away from direct patient care activities. The proposed new network will expand and enhance access to CME and Continuing Health Education (CHE) programs that are provided by UC's five academic medical centers and other California centers of excellence.

Goal Three

Leverage and build upon California's historic and recent investments in telehealth

Over the past several years, California has been increasingly recognized as a telemedicine and eHealth leader. California was one of the first states to allow Medicaid reimbursement for telemedicine and eHealth services. Growing numbers of providers are now using telemedicine and eHealth technologies in a variety of ways to benefit patient care. Between 1997 and 2007, the California Telemedicine & eHealth Center (CTEC), a statewide resource center, invested more than $23 million in re-granting projects to facilitate the growth of telemedicine and eHealth across the state. Funded through grants to CTEC from the California Endowment, California HealthCare Foundation, Blue Shield of California Foundation, and the federal Office for the Advancement of Telehealth, these resources have supported the development of regional eHealth networks and provided funding for technical support and training. California has also benefited from substantial public and private sector investment in telemedicine programs. Noteworthy examples include the growing UCDHS telemedicine program, expanding governmental efforts with the Indian Health Service's telemedicine programs, and the robust Blue Cross of California Telemedicine Network.

Currently in California, a set of regionally-based telemedicine networks provide services in more than 30 specialty areas and deliver a wide range of health education services for both rural providers and patients. Other telemedicine networks have been established and growing numbers of telehealth applications are being developed by private health organizations such as Sutter Health, Kaiser Permanente, and Catholic Healthcare West. These networks provide videoconferencing telemedicine units and other means of sharing information between rural facilities, hospitals, public health departments and other sites in rural counties, enabling providers to consult with specialists in urban areas and participate in CME seminars. The existing networks are also utilized to support regional health care provider meetings and to facilitate efforts toward development of regional health care delivery systems.

Recent California Telemedicine Initiatives. Over the past several years, a number of new and exciting initiatives have been launched in California to advance the use of telecommunications and health care technology. Significant among these are Governor Schwarzenegger's Health Information Technology (HIT) Executive Order (S-12-06, signed July 2006) which allocates $240 million to achieve full information exchange between health care providers and stakeholders within ten years, including a sustainable business model for a statewide eHealth network connecting rural health facilities to California medical centers using telemedicine and other technologies. In October 2006, Governor Schwarzenegger also signed Executive Order S-23-06, which established a broadband task force to promote broadband access and usage particularly in medically underserved areas. One working group of the task force is dedicated to health issues.

In 2005, after mergers of SBC-AT&T and Verizon-MCI, the California Public Utilities Commission (CPUC) formed the California Emerging Technology Fund, with $60 million in donations from the merged entities. CETF is a non-profit organization whose mission is to leverage its funds to achieve ubiquitous access to broadband and advanced services for California using emerging technologies within five years. CETF has pledged up to $3.6 million to match any FCC grant received in response to this application. A letter from the CETF President and CEO is included with other letters of support in Appendix G. The California Teleconnect Fund, administered by the CPUC, also provides an ongoing 50% discount to eligible government-owned and operated hospitals and non-profit health clinics.

As recently as November 2006, California voters passed Proposition 1D, which provides $200 million in bond funding to support infrastructure changes necessary to increase the medical student class size at UC's five medical schools and to develop and expand telemedicine programs throughout the state. While this new funding provides new resources for capital and equipment only, this funding will enable UC to invest in new facilities and state-of-the-art equipment to develop and expand new telemedicine programs and to improve the skills of future California providers. These new telemedicine efforts will be targeted toward medically underserved communities and aligned with other statewide efforts. A summary table describing these initiatives follows.

Initiative	$ Amount	Function/Mission
Governor's Health IT Executive Order (S-12-06, signed July 2006)	$240 million	To achieve full information exchange between health care providers and stakeholders within ten years, including developing a sustainable business model for an eHealth network connecting rural health care facilities to medical centers throughout the state using telemedicine and other technologies.
Governor's Broadband Executive Order (S-23-06, signed October 2006)		Establishes a broadband task force bringing together public and private stakeholders to: remove barriers to broadband access, identify opportunities for increased broadband adoption, and enable the creation and deployment of new advanced communication technologies. The task force focuses on ways that broadband can be used to substantially benefit educational institutions, health care institutions, community-based organizations, and governmental institutions. The task force includes a number of working groups including a health care working group. Several members of the task force and working group have been involved in developing this application, providing a broad spectrum of expertise to help create a new statewide model and plan.
California Emerging Technology Fund (established by the CPUC)	$60 million	To achieve ubiquitous access to broadband and advanced services in California through the use of emerging technologies by the year 2010.
California Teleconnect Fund (Decision 96-10-066, October 1996) (administered by the CPUC)	$25 million (FY 2007-2008)	To provide an ongoing 50% discount on telecommunications services to qualifying schools, libraries, government-owned and operated hospitals and health clinics, and community based organizations
Proposition 1D (new bond funding for UC medical schools, approved in November 2006)	$200 million	To fund infrastructure to class size in UC medical schools and expand telemedicine programs throughout the state. This will include new resources for facilities and state-of-the-art equipment for increased enrollments in new Programs in Medical Education (PRIME), aimed at improving health care for currently underserved communities in California

USDA-RUS Grant. In 1998, the UCDHS received a grant from the United States Department of Agriculture Rural Utilities Service (USDA-RUS), which provided funding for UCDHS to support 22 new end-user telehealth sites in rural northern California. In addition to delivery of clinical specialty services, the project provided primary and urgent care to schools in underserved communities and education to health care providers in geographically isolated rural communities.

USAC. The Universal Services Administrative Company (USAC) program continues to play an important role in developing California's telemedicine and telehealth infrastructure. Over the history of the Rural Health Care Support Mechanism, California health care providers have received nearly $2 million in discounted communication services, with almost half of this received in the past two years. In 2006, $500,000 was disbursed to telecommunication providers for services provided in California, an increase from the $456,000 received in 2005.

As California works to achieve its future vision for a ubiquitous statewide telehealth network, funding from the FCC for the proposed pilot would enable the state to build upon the Governor's recent Executive Orders relating to health and broadband deployment. Funding for the pilot will also enhance and help effectively leverage statewide efforts relative to the California TeleConnect Fund (administered by the California PUC),

the California Emerging Technologies Fund (focused on bridging the digital divide as to broadband), and new telehealth efforts by the UC system supported by Proposition 1D.

Goal Four

Utilize the California Telehealth Network for ongoing disaster preparedness training

Objectives include:

- Assisting state and local government, business, and other community organizations in improving skills for effective emergency management, basic preparedness and response training courses for public employees that may be tasked to help in the event of an emergency;

- Assisting in response exercises to link health providers throughout California, monitoring possible outbreaks and helping operate public health laboratories;

- Providing health-related alerts and notifications to health care providers throughout California; and

- Providing a mechanism for communication and facilitation of functions related to major emergencies and/or disasters, including counseling services for victims and first responders.

The State of California has assisted local governments, business, community organizations and others in developing effective emergency management and disaster preparedness programs and training. California has been a leader in this area and its processes have been utilized as the basis for the National Incident Management System (NIMS) guidelines. The California Telehealth Network will significantly enhance the capacity and efficiency of emergency communication networks within California.

The California Department of Health Services (CDHS) is responsible for preparing the state for public health emergencies such as natural disasters or other crises such as bioterrorism. Responsibilities range from monitoring possible disease outbreaks to operating state-of-the-art public health laboratories to training exercises that test the state's level of preparedness in responding to an array of emergencies. California's public health departments, health care providers, first responders and hospitals are vital partners in helping our state prepare for a public health emergency. These partners are responsible for emergency preparedness and response at the local level. The backbone of California's public health system is a network of public health departments in each of California's 58 counties and three that operate as city health departments in Berkeley, Long Beach and Pasadena. Hospitals and health care providers are also essential partners in California's preparation for and response to public health emergencies.

The California Telehealth Network would become an important tool in meeting the federal requirement to provide basic preparedness and response training courses to public employees who may be needed to work in the event of an emergency. In addition, the CTN would be an important tool for emergency preparedness as it would be used in response exercises to link health providers throughout California. Through the connection with the Department of Health Services Office of Emergency Preparedness, the CTN would serve a key role in providing alerts and notifications to health providers throughout California. In the event of an emergency, the CTN would play an important role in recovery by facilitating the delivery of important health services such as treatment and/or counseling for victims and first responders.

Goal Five

Report back to the FCC on the State of California's pilot program as to lessons learned regarding access to advanced services for public and non-profit health providers, and suggested revisions to the FCC's current rural health rules

Consistent with the FCC's request for information for future rulemaking regarding how best to enhance access to advanced services for public and non-profit health care providers, the pilot will conduct both formative and summative evaluations throughout the project period. Results will be used to shape and refine the structure and function of the network; assess its overall impacts on delivery of telemedicine and telehealth services statewide; and offer feedback about lessons learned and suggested revisions to the FCC's current rural health rules.

Proposed Network Design

The California Telehealth Network will provide a telecommunications infrastructure that will offer seamless telecommunications to increasing numbers of (and eventually most, if not all) rural health care providers in California. At the regional network level, rural providers and specialty referral hub sites will digitally communicate with other connected health providers within the state and across the nation

The California Telehealth Network has a number of strategic objectives that drive the proposed network design. Significant among them are California's commitment to:

- Provide for statewide geographic coverage to health care facilities;
- Broadly deploy bandwidth and Quality of Service (QOS) capabilities that provide high quality support for commonly used telemedicine applications (e.g., videoconferencing). A minimum baseline circuit capacity would be designated at the T1 level; however, it is recognized that for some health care providers, additional capacity may be required depending on the telemedicine applications utilized;
- Maximize the number and geographic distribution of participants connected during the pilot project. Currently, there are 256 providers that meet the RUCA requirements for designation as a rural provider. The proposed network has a goal of connecting more than 300 sites over a three year period;
- Create a statewide, highly interoperable, logically "flat" network which, to the extent possible, leverages existing infrastructure and services. The specific goal will be to remove logistical impediments to rapid and extensive deployment within a short time span;
- Develop a network architecture such that as broadband services, dedicated fiber infrastructure, and other capacity or bandwidth enhancements become available within a region, they can be integrated into the network without extensive topological reorganization of the entire network;

- Be vendor neutral – not requiring features or functionality that cannot be supplied by multiple vendors. This is intended to assure adequate participation during a competitive bidding process and to promote cost-effective implementation;

- Design a network that offers technical and infrastructure capabilities possessed by multiple vendors. This will assure adequate participation during a competitive bidding process and promote cost-effective implementation; and

- Utilize and employ a flexible design that will conveniently interoperate with other regional, state, and national routed networks.

The proposed network design will integrate the latest in technology and security into a state-of-the-art infrastructure that meets strategic objectives. It will differ from a standard routed network intended primarily for non-critical administrative use in that it will provide a higher level of service and will incorporate the following features:

- High Availability: The network will operate 24 hours/day, seven days/week, with a high level of hardware and circuit redundancy, configured such that when a failure occurs, network traffic is rapidly rerouted and service continues with minimal disruption;

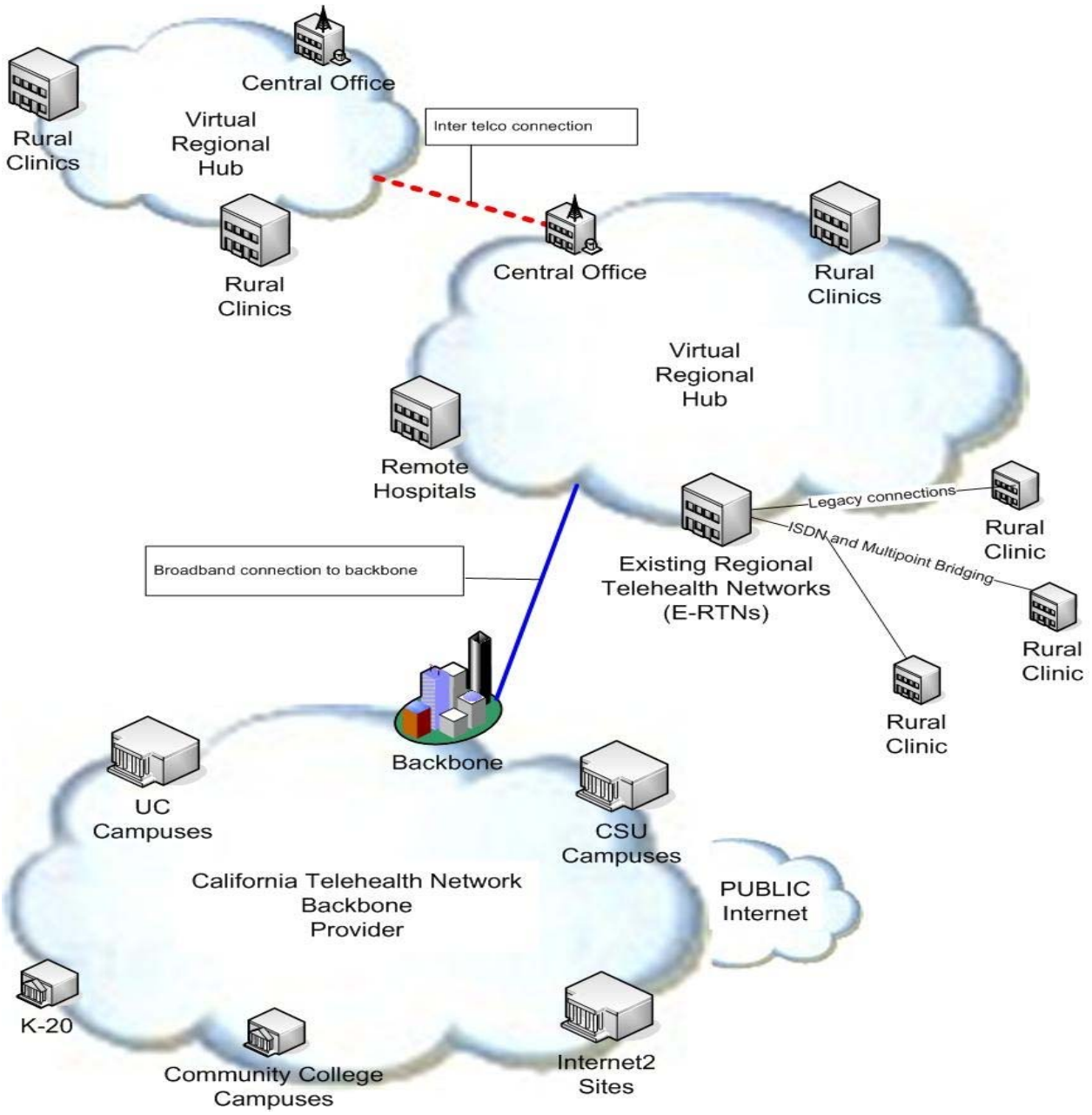
- Quality of Service Capabilities: The network will have end-to-end quality of service for telemedicine and other resource-intensive applications. A process will be developed to identify and mark certain types of traffic, which then give that traffic preferential priority as it is routed throughout the network. Traffic may be divided into two levels of priority: video (high priority), and data (low priority);

- Traffic Prioritization: The network will include guaranteed bandwidth allocation for a designated traffic type (e.g., video and data), regardless of aggregate traffic volume;

- Very Low Latency Variability and Guaranteed In-Sequence Packet Delivery: The network will support low latency variability and guaranteed in sequence packet delivery to be provided via stable, precisely-timed transmission of packets, delivered in the order in which they were sent; and

The proposed California Telehealth Network will integrate infrastructure and services from a number of communications providers selected during a competitive RFP process including commercial telecommunications ("telco") carriers, intra- and inter-state educational and non-profit and for profit network service providers, satellite service vendors and others. The proposed network will connect to the National LambdaRail and Internet2 networks, as required by the FCC Order.

The figure below illustrates a high-level conceptual view of the proposed California Telehealth Network infrastructure. A more detailed technical description of the proposed network is included in Appendix A, including a description of proposed terrestrial network design and proposed satellite network infrastructure that may also be deployed to provide: redundancy, and an alternative where terrestrial service is too costly or impractical. If this proposal is funded, California's partnering organizations will perform a detailed initial study phase to develop the best possible design for the network. We are committed to utilizing new technologies that will be cost-effective in meeting overall objectives for the network and the sites to be served.


Central Office
Rural Clinics
Virtual Regional Hub
Inter telco connection
Rural Clinics
Central Office
Rural Clinics
Virtual Regional Hub
Remote Hospitals
Legacy connections
ISDN and Multipoint Bridging
Rural Clinic
Rural Clinic
Rural Clinic
Existing Regional Telehealth Networks (E-RTNs)
Broadband connection to backbone
Backbone
UC Campuses
CSU Campuses
California Telehealth Network Backbone Provider
PUBLIC Internet
K-20
Community College Campuses
Internet2 Sites

Technical Assistance for Network Participants

During the pilot there will be one network operations center; however, the project team will investigate best practices for communication as the California Telehealth Network expands and may add strongly linked network operations centers that seamlessly share information. The existence of only one network operations center at first will be critical for providing efficient and quality technical assistance to participating rural sites.

The California Telehealth Network's network infrastructure, however broadly geographically dispersed, must be accessible to centralized, real-time continuous monitoring. Due to the geographically dispersed nature of the proposed California Telehealth Network across up to 155,000 square miles, potentially traversing multiple telecommunications common carriers and numerous private network linkages, there is a potential for "balkanization" of support and monitoring among multiple regional entities. Many years of experience supporting telemedicine at UCDHS has demonstrated that "fractured" support leads to inefficient, inconsistent, and unreliable services. This is recognized as one of our challenges for the project.

During the initial phases of implementation, a centralized network monitoring facility will be established, tentatively sited at the UC Davis Medical Center, in Sacramento, California. To the maximum extent possible, network status information in the form of SNMP feeds, will be collected from the various network providers and participant sites. The information will be consolidated and monitored using sophisticated monitoring tools (e.g., HP Openview) that provide a global topological view of the entire network. The center will be staffed 24/7 by qualified network technicians, who will monitor California Telehealth Network's status and performance. Connectivity or performance problems will be quickly identified, the appropriate vendor or regional site staff will be notified, and problem resolution will be tracked and logged using effective problem tracking methodologies. The Center will also prepare regular reports on network utilization and performance on a global and per site basis.

Centralized support resources are highly effective in network monitoring and tracking problem resolution; however, they are not sufficient to deal with the myriad of network, equipment and application problems that can be expected to occur throughout the highly geographically dispersed California Telehealth Network. One of the values of integrating the six regional telehealth networks (see Section Nine) into the CTN is that it will be possible to leverage the existing support infrastructure and operations experience that the regional telehealth networks provide. The existing regional telehealth networks (E-RTN) all offer some level of first-line technical support. Therefore, a large number of rural telemedicine sites participating in this project will be able to call a regional help desk that is familiar with their systems and can provide a triage function to determine the nature of the problem. Operational experience by both UCDHS and the rural telehealth networks shows that most technical problems are not related to the telecommunications networks, but to other equipment issues at either the remote site or the specialty hub. If needed, the help desks at the E-RTNs can dispatch technicians in a timely manner to assist the rural health care sites that are connected or closest to them. The E-RTNs will provide first-level technical support to resolve technical problems not related to the network. In the event that there are problems with the telecommunications network, the technical support staff at the rural hub sites will call the centralized network support call center for assistance.

Technical assistance for network participants will be provided before deployment, at the time of installation,

and post-installation, by staff from the central network support center or the E-RTNs. Detailed processes, procedures, documentation and training will be developed during the planning phase of the CTN pilot program. The following elements are desirable:

- Pre-deployment: Assistance will include needs analysis, technical site assessments and training (technical and process) for remote site technicians so that they are fully trained to provide the expected level of support and are cognizant of processes and procedures for problem escalation and resolution prior to site installation;

- Installation: Sites approved for installation will be pre-verified for expected level of site preparation prior to equipment installation with technical assistance available should an issue arise during installation; and

- On-going support: A 24/7 technical support line will be available. Calls to the support line will be routed to the help desk of the associated regional hub during normal business hours for tier 1 and 2 technical support and triage. Problems with the telecommunications network will be directed back to the centralized network support call center for resolution with the associated telecom providers.

Rural health care sites not affiliated with an E-RTN will call a proposed centralized network support site that will triage the call to determine the nature of the problem. The CTN will decide how to optimize technical support to these sites during the planning phase.

Access to New Technologies

The California Telehealth Network will provide more of California's health care providers with access to new technologies in areas such as in-home monitoring, teleconsultation, and other cutting-edge health care services.

The University of California currently has thousands of research and development projects across the ten-campus system that could potentially be of benefit to users of the California Telehealth Network. UC research efforts in technology transfer, telecommunication, nanotechnology, biotechnology and genomics garner more federal, National Science Foundation (NSF), and other research support than any other university system. The proposed California Telehealth Network will eventually allow access for the state's health care providers to innovations currently being developed within UC in the areas of:

- High end technologies that allow teleimmersion and telepresence in Intensive Care Units (ICUs);

- Integration and processing of very large streams of data and very large numbers of streams of data from sensors, video devices, and consumer devices all of which are used to deliver various aspects of health care;

- Wearable sensors, integrated into consumer devices, facilitating delivery of remote monitoring, care-at-a-distance, and real time telemetry; and

- Other technologies allowing teleconsultation, teleradiology and distributed clinical trials.

University of California, Berkeley (UCB)'s Center for Information Technology Research in the Interest of Society (CITRIS) has developed information technologies for emerging regions, modifying currently available technology so that it can operate at long distances and under harsh conditions. The program has successfully set up technologies that deliver 6-7MB/s speeds over 60 miles, running on solar energy, in Africa and India. They are now focused on rural areas in the U.S. and believe they can go as far as 300 miles, with good quality of service. CITRIS also has a 10-year NSF funded center, the Team for Research in Ubiquitous Secure Technologies (TRUST), which among other things examines data security in the delivery of remote health care. The CTN would, for UC researchers at CITRIS and elsewhere also offer a unique and controlled testbed for studying optimization of distributed work (i.e., studies to determine the best optimization of cost, service and convenience when multiple providers are seeking services from each other).

University of California, Los Angeles (UCLA) resources available to the California Telehealth Network include its National Library of Medicine training program in medical informatics; the UCLA Biomedical Informatics Center (UBIC), which houses a range of interdisciplinary educational and research efforts across the campus; provides exposure to novel, world-class telemedicine research; fosters interaction between clinicians, medical informaticians, computer scientists, and electrical engineers; and provides outstanding programs in tele-oncology and stroke management.

University of California, San Diego (UCSD)'s Stroke Center Long-Distance Consultation program is a model developed in partnership with CalIT2 that utilizes enhanced, broadband wireless internet technology to allow real-time consultation with the UCSD stroke team over long distances, capturing and delivering live, high-quality patient video and audio across Internet connections. The UCSD stroke team, using a wireless, laptop computer, participates in the physical exam while it is taking place, consulting with the community physician and advising in administration of appropriate drugs. Models such as these being developed throughout the UC system will become more widely available statewide.

Other potential linkages for members of the CTN include mobile applications that leverage broadband wireless access and with personal telehealth solutions, such as those being created by industry consortia including the Continua Health Alliance; and technologies developed at the U.S. Army's Telemedicine and Advanced Technologies Research Center (TATRC) in Marina del Rey, California. TATRC has played a key role in the advancement of telemedicine in this state by building collaboration between government, academia, and industry to develop a wide range of cutting edge telemedicine and health technologies. Recent key initiatives supported by TATRC include Medical Robotics, Imaging Technologies, Advanced Prosthetics, Computational Biology, Remote Monitoring, as well as advanced Simulation and Training Technologies.

3. Estimated Network Costs per Year

The following table includes the proposed preliminary budget for the costs allowed under the FCC Rural Health Care Pilot Program over a three year period. The budget estimates for terrestrial broadband do not include the cost of pulling fiber to sites located in areas that currently do not have broadband access. The assessment of these costs will be obtained during the planning phase of the pilot, as they can then be assessed on a case-by-case basis. The Sustainability Plan (see Section 11) contains additional information regarding how the costs associated with the enhanced use of telemedicine services, enabled by increased access to advanced telecommunications and information services, will be covered.

Uses	Description	Year 1	Year 2	Year 3
Initial network design study	Comprehensive design study will be used to determine: the needs of the rural sites in the state that could provide telemedicine services; and the basis for revising this preliminary budget in order to deploy an efficient statewide telehealth network that uses various technologies.	$200,000	$0	$0
Non-Recurring Costs: Deploying transmission facilities and advanced telecommunications and information services	Estimated costs of deploying both terrestrial broadband (fiber) and satellite broadband for connection between urban medical centers, teaching hospitals and rural health care sites. Provides telecommunications connectivity at the rural health care sites. This is either initial equipment for new users or upgrades for current users to expand quantity and quality of telemedicine services.	$3,425,000	$3,625,000	$3,625,000
• Terrestrial Telecommunications Equipment and Services Sub-total	Includes capital equipment such as routers.	$1,925,000	$3,625,000	$3,625,000
• Satellite Telecommunications Equipment and Services Sub-total	Includes capital equipment such as satellite terminals.	$1,500,000	$0	$0

Estimated Recurring Costs:		$9,375,000	$9,375,000	$9,375,000
• Terrestrial Sub-total	Includes ongoing operational, technical support and service costs	$7,875,000	$7,875,000	$7,875,000
• Satellite Sub-total	Includes ongoing operational, technical support and telecommunication service costs	$1,500,000	$1,500,000	$1,500,000
Totals		$13,000,000	$13,000,000	$13,000,000

4. For-Profit Network Participation

It is anticipated that non-public and for-profit private providers and managed health systems will be able to contribute to the success of the pilot project and the development of a comprehensive statewide telemedicine system. Such participation will help ensure long-term sustainability of the system by providing resources for maintenance, expansion and upgrades for the network, and improvement and expansion of the telehealth and telemedicine services. The pilot project intends to pursue discussions with health care providers such as Stanford University, Childrens' Hospitals, and Kaiser Permanente Health Plan, as well as for-profit organizations such as Blue Cross, Blue Shield, United Health, and Sutter Health, to explore the feasibility of their participation. Whenever a non-USAC-eligible health care provider or for-profit organization is part of the network, the service provider will directly invoice that entity for its share of the service. Use and subscription by non-public and for-profit private providers will be subject to:

- Commitment in writing by the non-public and for-profit providers to the development of the statewide network that will enhance the delivery of health care to rural and remote communities in California;

- Payment (on a timely basis) of the proportionate full cost of the use of the network without any direct or indirect subsidy from the FCC grant; and

- Agreement to participate, as requested, in the providers' work group of the Program Advisory Board to ensure continuous improvement to the statewide telemedicine system.

The following guidelines for allocating costs have been reviewed and would likely be employed:

Service or Connections Where Usage is Tracked. Service providers and health providers will itemize the services for which the health providers plan to apply for discounts in their contracts/agreements. Where usage is tracked by the service provider, the provider will itemize the bill so that costs attributable to eligible health providers are readily identifiable and the discount for each eligible provider is specified on the bill. The bill submitted by the service provider will identify the pre-discount price of eligible services.

Service or Connections Where Usage Is Not Tracked. It may not be feasible to track usage in order to allocate costs among eligible and non-eligible entities. In those cases, the advisory board and lead agency in purchasing the common service or connections will agree in advance about how to allocate costs based on their estimated relative use of the resulting service. The allocation methodology will be based on a usage measure, examples include:

- Number of connections (trunks, lines or wireless connections) operated by each member; and

- Number of connections (trunks, lines or wireless connections) operated by each member and periods of time of operation for the trunks, lines or wireless connections (a proxy for minutes of use).

The allocation methodology will be set forth in the contract/agreement for services executed with the service provider. If there is no contract for services (as may be the case for tariffed or month-to-month services), the health care provider will provide the service provider with a copy of its allocation methodology. The methodology for allocating costs may be established permanently, or it may be reviewed periodically. This methodology will be documented as part of the record keeping responsibilities of

the lead agency for the project. The entity actually paying bills to the service provider will maintain records of how the costs of services shared with ineligible entities are allocated. In those situations where the service provider remits one bill to the consortium for all the services rendered to all members of the consortium (which may include ineligible entities), the allocation methodology will be provided by the lead applicant to the service provider in advance, so that the provider may compute the discounted portion of the bill. Methodologies may include:

Number of Lines. A consortium comprising both eligible and ineligible entities may choose to allocate the pre-discount price among each member according to the number of lines used by each member. For example, if there are five entities in the consortium, and the service provider issues one bill to the lead consortium member, and there are five lines used by each consortium member, each member would be allocated 1/5 or 20% of the bill. The pre-discount price for the consortium would be the sum of the pre-discount price allocated to each eligible health care provider. Thus, if only four of the five entities are eligible for discounts, then the discounts would be applied to 80% of the price billed by the service provider.

Number of Lines and Hours of Operation. The consortium may also decide to allocate the pre-discount price among each member according to the number of lines and the period of time each line is used by each member. In the above example, assume that there are five entities in a consortium of eligible and ineligible entities, and there are five lines used by each consortium member. Assume further that one member of the consortium operates 24 hours per day and the other entities use their lines 10 hours per day. The consortium could agree to weight the allocation methodology according to both the number of lines and the hours of use by each health care provider as follows:

Consortium Member	No. of Lines	Hours of Use	Total
1	5	10/day	50 hours
2	5	10/day	50 hours
3	5	10/day	50 hours
4	5	10/day	50 hours
5	5	24/day	120 hours
			Total hours: 320

Each of the first four consortium members would be allocated 50/320 or 15.6% of the bill from the service provider. The fifth consortium member would be allocated 120/320 or 37.5% of the bill from the service provider.

5. Financial Support and Anticipated Revenues

As described in Section 2, a number of new and important broadband, telemedicine, and health IT initiatives are currently underway in California. It is anticipated that funds will be leveraged to build upon FCC funds made available to the CTN. Specific commitments have already been made regarding cash available to match federal dollars for this project. Funds have been secured to provide the 15% cash match required to conduct a successful pilot in Year 1 of the program, as well as the majority of the cash match projected in Year 2. Any revenues derived from for-profit network participants will balance costs incurred and therefore provide no net cash match to the California Telehealth Network. Appendix G contains a Letter of Commitment from the California Emerging Technology Fund. Other funders/investors have also expressed strong interest in supporting the project. Discussions are underway and will continue as this proposal is reviewed. Section 11 provides further discussion of these efforts.

Source of Funds for Pilot	Percentage of Pilot Budget	Year 1	Year 2	Year 3
FCC	85%	$11,000,000	$11,000,000	$11,0000,000 (anticipated)
CETF	15% in Year 1, 11.25% in Year 2	$ 2,000,000	$ 1,600,000	
For-Profit Network Participants		TBD	TBD	TBD
United Healthcare Charitable Fund		Under discussion	Under discussion	Under discussion
	100%	$13,000,000	$13,000,000	$13,000,000

6. - 7. List of Health Care Facilities in Network

Guiding Principle for Site Selection. To connect health care facilities via a comprehensive and sustainable telemedicine network throughout the state, in order to provide Californians with improved access to quality health services.

Background. The proposal development team agreed that Californians deserve better access to health care, regardless of where they live. The team acknowledged that there are over 5,700 licensed health care facilities located across California's more than 155,000 square miles, serving its over 37 million people; and that, because California is such a large, diverse state, a single centralized telemedicine network effort must include:

- a phased approach for building the infrastructure and connecting health care facilities;
- a collaboration of health care delivery entities (providers, state government, and health care associations) so that patients are not discriminated against for any reason;
- partnerships which leverage investments (public investors, non-profit investors, federal government, state facilities) for sustainability;
- training the next generation of health care workforce to maximize efficiency and use of telemedicine; and
- a balanced approach in site selection that takes into consideration geographic parity, stakeholders' interest, and connections to facilities in underserved areas.

After much discussion, the proposal team developed a rational and transparent approach to quantify which health care sites should be phased in, and in what order, to maximize our investments and provide improved care. This approach should:

- connect rural health care facilities (hospitals and primary care clinics);
- connect teaching hospitals;
- be geographically distributed throughout the state;
- emphasize connecting facilities currently practicing in underserved areas;
- ensure that special communities, such as Native American, veterans, people with disabilities, and like communities of special needs are connected;
- facilitate development of a comprehensive and sustainable telemedicine network in each underserved region by connecting a "critical mass" of rural facilities; and
- align the efforts of existing networks with investments for improving the system.

Methodology. We began by assembling a list of known health care facilities in California. Beginning with the Office of Statewide Health Planning and Development's Geographic Information System (GIS) database of all licensed facilities, we cross referenced facilities with known telemedicine sites (from the California Telemedicine and eHealth Center), data from the California Hospital Association, sites from the UCD Health System, University of California, Merced and the Indian Health Service. All health care facilities sites were annotated and identified relative to the following information:

- within an existing network already operating telemedicine programs;
- within a rural area as defined by RUCA;
- within a Health Professional Shortage Area (for Primary Care, Mental Health, and Dental);
- county and region name;
- non-profit status; and
- type of facility (teaching hospital, rural hospital, tribal clinic, primary care clinic, psychology clinic, and other clinics)

The resulting list included 319 facilities of interest (referred to as "the selection set") for the state. All twelve regions of the state are represented in the selection set. A neutral site selection subcommittee then applied a series of filters, given our guiding principle, to obtain a phased approach for site selection. In each case, we attempted to reach approximately 100 sites per year. Year 1 identifies well over 100 sites, because all 26 of California's teaching hospitals, already known to have significant connections, are included.

Year 1. For Year 1 sites, the site selection subcommittee focused on the following six criteria: (1) geographic balance throughout the state; (2) ensuring there were enough sites in each region for a "critical mass" for a comprehensive and sustainable telemedicine program; (3) ensuring a high degree of existing telemedicine sites were selected; (4) ensuring representation of the Administration's goals for the Central Valley, the North Coast, and the San Bernardino/Imperial Valley area; (5) ensuring a high degree of sites were currently practicing in underserved communities; and (6) ensuring the FCC goals of including tribal, psychology and rural clinics were met. In Year 1, 126 sites from all 12 regions in the state are proposed (see chart below).

Year 2. For Year 2 sites, the site selection subcommittee focused on the following criteria: (1) all remaining already operating telemedicine sites not included in Year 1; (2) all remaining tribal sites not included in Year 1; and (3) all remaining rural hospitals not included in Year 1. In Year 2, at least 89 sites from 11 regions in the state are proposed, with the expectation that additional sites can be accommodated (see chart below).

Year 3. For Year 3, the site selection committee proposed phasing in all remaining (104) rural sites from 11 regions in the state that have not been connected during Years 1 and 2. This site selection process followed our overarching goal for a statewide system that meets the guidelines set forth in the FCC's Order. In the future, California would like to enable other investors to invest in sites and activities which are unable to qualify for FCC funding through this pilot program, including: (1) urban facilities in underserved areas; (2) additional telemedicine applications; (3) training activities to support these telemedicine efforts; (4) for-profit health care facilities who desire to connect to the network; and (5) medical groups.
The first table below shows characteristics of the sites chosen, the year that various sites will be connected, and percentages by characteristics. The second table summarizes the sites chosen as sorted by the

twelve regions of California, and shows the year they will be connected.

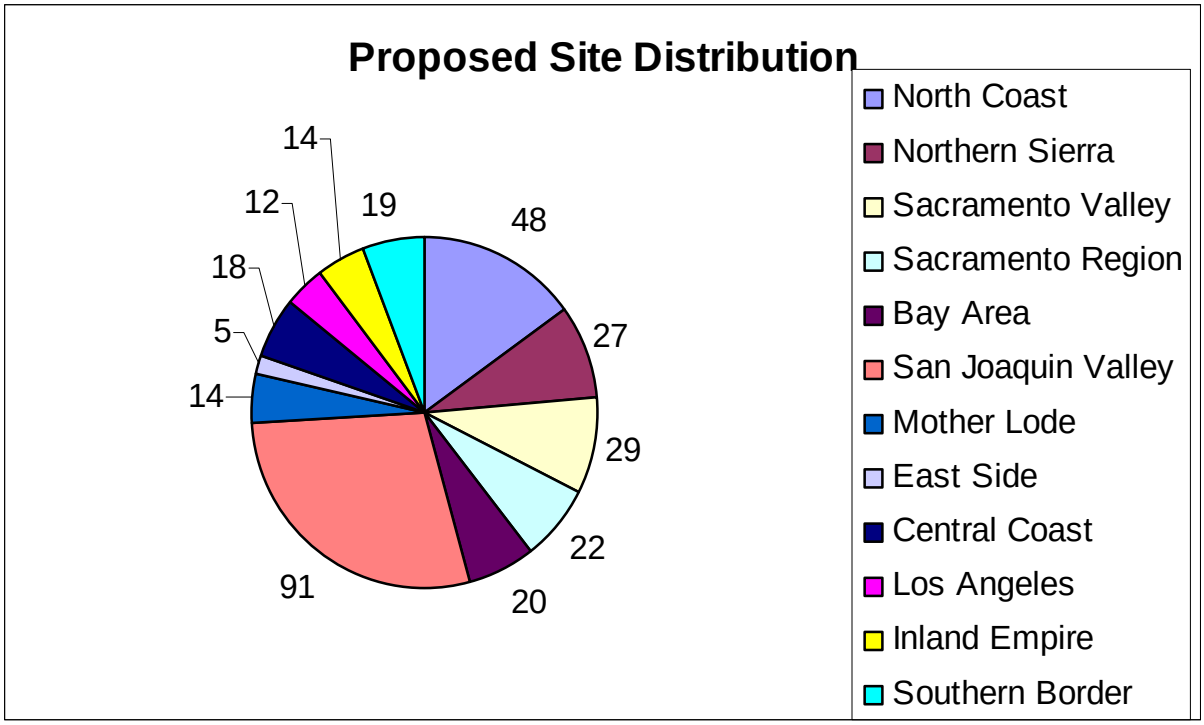
Site Selection Details

	Year 1*	Year 2*	Year 3*	Total	% of Total
All Sites	126	89	104	319	
Number Already Operating Telemedicine Programs	63	63	0	126	40%
Number of Teaching Hospitals	26	0	0	26	8%
Number of Rural Hospitals	63	18	0	81	25%
Number of Tribal Clinics	11	11	0	22	7%
Number of Psychology Clinics	1	0	0	1	0.3%
Number of Primary Care Clinics	20	39	95	154	48%
Number of Other Clinics	5	21	9	35	11%
Number in HPSA PC	75	53	75	203	64%
Number in HPSA MH	49	47	59	155	49%
Number in RUCA	92	68	96	256	80%

Summary By Region	Year 1	Year 2	Year 3	Total	% of Total
01 - North Coast	15	19	14	48	15%
02 - Northern Sierra	12	10	5	27	8%
03 - Sacramento Valley	10	14	5	29	9%
04 - Sacramento Region	6	8	8	22	7%
05 - Bay Area	12	3	5	20	6%
06 - San Joaquin Valley	28	19	44	91	29%
07 - Mother Lode	7	1	6	14	4%
08 - East Side	3	1	1	5	2%
09 - Central Coast	5	1	12	18	6%
10 - Los Angeles	12	0	0	12	4%
11 - Inland Empire	8	4	2	14	4%
12 - Southern Border	8	9	2	19	6%

* Please note that the number of proposed sites may change very slightly as a result of the planning process scheduled for the first quarter of the project. Additionally, characteristics of sites can overlap (e.g. site is both in a HPSA PC and RUCA-defined area), therefore all the percentages will not add to 100.

A graphic illustrating the distribution by region of all sites is provided on the next page.



Next is a list of the sites participating, by year, including their contact information.

Following the list is a series of four maps detailing the location of all sites, and specific sites to be connected in each of the three project years. (It should be noted that the southeast corner of California consists largely of desert areas, including Death Valley, the Mojave Desert, and Joshua Tree National Park.)

The following is the list of the sites selected by name, address, zip code, RUCA code and phone number.

YEAR ONE FACILITY	ADDRESS_1	CITY	ZIP CODE	RUCA CODE	PHONE
ALAMEDA CO MED CTR - HIGHLAND CAMPUS	1411 E 31ST ST	OAKLAND	94602	1	(510)534-8055
SUTTER AMADOR HOSPITAL	200 MISSION BLVD	JACKSON	95642	7	(209)223-7500
FEATHER RIVER HOSPITAL	5974 PENTZ RD	PARADISE	95969	4.1	(530)877-9361
Northern Valley Indian Health - Chico	845 W East Ave	Chico	95926	1	
OROVILLE HOSPITAL	2767 OLIVE HWY	OROVILLE	95966	4.2	(530)533-8500
MARK TWAIN ST. JOSEPH'S HOSPITAL	768 MOUNTAIN RANCH RD	SAN ANDREAS	95249	10.6	(209)754-3521
COLUSA REGIONAL MEDICAL CENTER	199 E WEBSTER ST	COLUSA	95932	7	(916)323-7685
Howonquet Health Center	501 N Indian Rd	Smith River	95567	5	(707) 825-4050
EL DORADO COUNTY P H F	935B SPRING ST	PLACERVILLE	95667	4.2	(530)621-6210
COALINGA STATE HOSPITAL	24511 WEST JAYNE AVENUE	COALINGA	93210	4.2	
COALINGA VALLEY HEALTH CLINICS, INC. - HURON	36617 CENTRAL AVE	HURON	93234	7.3	559-945-9251
COALINGA VALLEY HEALTH, INC. - COALINGA	1145 PHELPS AVE	COALINGA	93210	4.2	559-935-4374
KINGSBURG MEDICAL CENTER	1200 SMITH ST	KINGSBURG	93631	4.1	(559)897-5841
ORCHARD MEDICAL CENTER	555 6TH ST	ORANGE COVE	93646	7.4	559-626-7118
SAN JOAQUIN HEALTH CENTER	21890 W COLORADO AVE	SAN JOAQUIN	93660	7.3	559-693-2462
SELMA COMMUNITY HOSPITAL	1141 ROSE AVE	SELMA	93662	4.1	(559)891-6200
SIERRA KINGS DISTRICT HOSPITAL	372 W CYPRESS AVE	REEDLEY	93654	4.2	(559)638-8155
UNITED HEALTH CTRS OF SAN JOAQUIN VALLEY - HURON	16928 11TH ST	HURON	93234	7.3	559-945-2542
UNIVERSITY MEDICAL CENTER	445 S CEDAR AVE	FRESNO	93702	1	
GLENN MEDICAL CENTER	1133 W SYCAMORE ST	WILLOWS	95988	7	(530)934-1800
JEROLD PHELPS COMMUNITY HOSPITAL	733 CEDAR ST	GARBERVILLE	95542	10	(707)923-3921
K'ima:w Medical Center Clinic	1200 Airport Road	Hoopa	95546	10.5	(530) 625-4261
REDWOOD MEMORIAL HOSPITAL	3300 RENNER DR	FORTUNA	95540	4	(707)725-3361
ST. JOSEPH HOSPITAL - EUREKA	2700 DOLBEER ST	EUREKA	95501	4	(707)445-8121
TELEHEALTH AND VISITING SPECIALIST CENTER	2426 BUHNE ST	EUREKA	95501	4	
United Indian Health Service	1600 Weeot Way	Arcata	95521	4	(707) 825-4050
CLINICAS DE SALUD DEL PUEBLO INC	223 W COLE RD	CALEXICO	92231	4.2	760-357-2020
PIONEERS MEMORIAL HOSPITAL	207 W LEGION RD	BRAWLEY	92227	4.2	(760)351-3333
NORTHERN INYO HOSPITAL	150 PIONEER LN	BISHOP	93514	4	(760)873-5811

YEAR ONE FACILITY	ADDRESS_1	CITY	ZIP CODE	RUCA CODE	PHONE
SOUTHERN INYO HOSPITAL	501 E LOCUST ST	LONE PINE	93545	10.5	(760)876-5501
DELANO REGIONAL MEDICAL CENTER	1401 GARCES HWY	DELANO	93215	4.2	(661)725-4800
KERN MEDICAL CENTER	1830 FLOWER ST	BAKERSFIELD	93305	1	(661)326-2000
RIDGECREST REGIONAL HOSPITAL	1081 N CHINA LAKE BLVD	RIDGECREST	93555	4	(760)446-0621
TEHACHAPI HOSPITAL	115 W E ST	TEHACHAPI	93561	4	(661)822-3241
WASCO MEDICAL/DENTAL CENTER	2101 7TH ST	WASCO	93280	4.2	661-758-2263
AVENAL COMMUNITY HEALTH CENTER	1000 SKYLINE BLVD	AVENAL	93204	4	559-386-4500
CENTRAL VALLEY GENERAL HOSPITAL	1025 N DOUTY ST	HANFORD	93230	4	(559)583-2100
CORCORAN DISTRICT HOSPITAL	1310 HANNA AVE	CORCORAN	93212	4	(530)992-5051
REDBUD COMMUNITY HOSPITAL	15630 18TH AVE	CLEARLAKE	95422	4	(707)994-6486
BANNER LASSEN MEDICAL CENTER	1800 SPRING RIDGE DR	SUSANVILLE	96130	7	(530)257-5325
Big Valley Medical Center (Beiber)	554 Medical Center Drive	Beiber	96009	10	
CATALINA ISLAND MEDICAL CENTER	100 FALLS CANYON RD	AVALON	90704	7.3	(310)510-0700
CEDARS SINAI MEDICAL CENTER	8700 BEVERLY BLVD	LOS ANGELES	90048	1	(323)566-8504
LAC/RANCHO LOS AMIGOS NATIONAL REHAB CENTER	7601 IMPERIAL HWY	DOWNEY	90242	1	(562)401-7111
LONG BEACH MEMORIAL MEDICAL CENTER	2801 ATLANTIC AVE	LONG BEACH	90806	1	(562)933-2000
LOS ANGELES CO HARBOR-UCLA MEDICAL CENTER	1000 W CARSON ST	TORRANCE	90502	1	(310)222-3221
LOS ANGELES CO MARTIN LUTHER KING JR/DREW MED CTR	12021 WILMINGTON AVE	LOS ANGELES	90059	1	(562)401-8035
LOS ANGELES CO USC MEDICAL CENTER	1200 N STATE ST	LOS ANGELES	90033	1	(323)226-2400
LOS ANGELES COUNTY OLIVE VIEW-UCLA MEDICAL CENTER	14445 OLIVE VIEW DR	SYLMAR	91342	1	(818)364-1555
UCLA MEDICAL CENTER	10833 LE CONTE AVE	LOS ANGELES	90095	1	(310)825-5041
WHITE MEMORIAL MEDICAL CENTER	1720 E CESAR E CHAVEZ AVE	LOS ANGELES	90033	1	(323)268-5000
CHILDREN'S HOSPITAL CENTRAL CALIFORNIA	9300 VALLEY CHILDRENS PL	MADERA	93638	10.1	(559)353-3000
CHOWCHILLA DISTRICT MEMORIAL HOSPITAL	1104 VENTURA AVE	CHOWCHILLA	93610	7	(559)665-3781
Madera County Behavioral Health Services: Madera Clinic	14277 Rd. 28	Madera	93638	1	
Oakhurst Counseling Center	49774 Rd. 426	Oakhurst	93644	7	
JOHN C FREMONT HEALTHCARE DISTRICT	5189 HOSPITAL RD	MARIPOSA	95338	10	(209)966-3631
FRANK R HOWARD MEMORIAL HOSPITAL	1 MADRONE ST	WILLITS	95490	7.4	(707)459-6801
LONG VALLEY BEHAVIORAL HEALTH CENTER	50 BRANSCOMB RD	LAYTONVILLE	95454	10	
MENDOCINO COAST DISTRICT HOSPITAL	700 RIVER DR	FORT BRAGG	95437	7	(707)961-1234
Round Valley Indian Health Clinic	Corner of Hwy 162 & Biggar Lane	Covelo	95428	10	(707) 983-6404
UKIAH VALLEY MEDICAL CENTER/HOSPITAL DRIVE	275 HOSPITAL DR	UKIAH	95482	4	(707)462-3111

YEAR ONE FACILITY	ADDRESS_1	CITY	ZIP CODE	RUCA CODE	PHONE
Yuki Trails	23000 Henderson Rd	Covelo	95428	10	(707) 983-6404
LIVINGSTON COMMUNITY HEALTH SERVICES	1140 MAIN ST	LIVINGSTON	95334	4.2	209-394-7075-110
MODOC MEDICAL CENTER	228 W MCDOWELL AVE	ALTURAS	96101	7	(530)233-5131
SURPRISE VALLEY COMMUNITY HOSPITAL	MAIN ST AND WASHINGTON ST	CEDARVILLE	96104	10.6	(530)279-6111
Warner Mountain Indian Health Clinic	132 Mee Thee-Uh Road	Fort Bidwell	96112	10.6	(530) 279-6194
MAMMOTH HOSPITAL	85 SIERRA PARK ROAD	MAMMOTH LAKES	93546	7	(760)993-4331
GEORGE L MEE MEMORIAL HOSPITAL	300 CANAL ST	KING CITY	93930	4.2	(831)385-6000
ST. HELENA HOSPITAL	10 WOODLAND RD	ST. HELENA	94574	10.6	(707)963-3611
SIERRA NEVADA MEMORIAL HOSPITAL	155 GLASSON WAY	GRASS VALLEY	95945	4.2	(916)851-2183
TAHOE FOREST HOSPITAL	10121 PINE AVE	TRUCKEE	96160	7.3	(530)587-6011
UNIVERSITY OF CALIFORNIA IRVINE MEDICAL CENTER	101 CITY DR S	ORANGE	92668	1	(714)456-5678
EASTERN PLUMAS HOSPITAL-PORTOLA CAMPUS	500 1ST AVE	PORTOLA	96122	7	(530)832-6500
INDIAN VALLEY HOSPITAL	184 HOT SPRINGS RD	GREENVILLE	95947	10	(530)284-7191
PLUMAS DISTRICT HOSPITAL	1065 BUCKS LAKE RD	QUINCY	95971	10	(530)283-2121
SENECA HEALTHCARE DISTRICT	130 BRENTWOOD DR	CHESTER	96020	10	(530)258-2151
BLYTHE HEALTH CLINIC	321 W HOBSONWAY STE C	BLYTHE	92225	4	760-922-4981
MECCA HEALTH CLINIC-STE. 500	91275 66TH AVENUE	MECCA	92254	2	760-396-1249
Soboba Health Care Center	607 Donna Way	San Jacinto	92583	1	(909) 864-1097
UNIVERSITY OF CALIFORNIA DAVIS MEDICAL CENTER	2315 STOCKTON BLVD	SACRAMENTO	95817	1	(916)734-9136
HAZEL HAWKINS MEMORIAL HOSPITAL	911 SUNSET DR	HOLLISTER	95023	4.2	(831)637-5711
BARSTOW COMMUNITY HOSPITAL	555 S 7TH AVE	BARSTOW	92311	4	(760)256-1761
COLORADO RIVER MEDICAL CENTER	1401 BAILEY AVE	NEEDLES	92363	7	
HI-DESERT MEDICAL CENTER	6601 WHITE FEATHER RD	JOSHUA TREE	92252	4.2	(760)366-6478
LOMA LINDA UNIVERSITY MEDICAL CENTER	11234 ANDERSON ST	LOMA LINDA	92354	1	(909)558-4000
MOUNTAINS COMMUNITY HOSPITAL	29101 HOSPITAL RD	LAKE ARROWHEAD	92352	4.1	(714)992-1525
BORREGO MEDICAL CENTER	4343 YAQUI PASS RD	BORREGO SPRINGS	92004	10.4	760-767-5051-30
Council of Community Clinics	7535 Metropolitan Drive	San Diego	92108	1	
HIGH DESERT FAMILY MEDICINE	44460 OLD HIGHWAY 80	JACUMBA	91934	2	619-766-4071
MOUNTAIN EMPIRE FAMILY MEDICINE	31115 HIGHWAY 94	CAMPO	91906	2	619-478-5311

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SCRIPPS MERCY HOSPITAL	4077 5TH AVE	SAN DIEGO	92103	1	(619)294-8111
UNIVERSITY OF CALIF-SAN DIEGO MEDICAL CENTER	200 W ARBOR DR	SAN DIEGO	92103	1	(619)543-6222
CALIFORNIA PACIFIC MED CTR-PACIFIC CAMPUS	2333 BUCHANAN ST	SAN FRANCISCO	94115	1	(415)600-6000
SAN FRANCISCO GENERAL HOSPITAL	1001 POTRERO AVE	SAN FRANCISCO	94110	1	(415)206-8100
ST. MARY'S MEDICAL CENTER, SAN FRANCISCO	450 STANYAN ST	SAN FRANCISCO	94117	1	(415)668-1000
UCSF MEDICAL CENTER	505 PARNASSUS AVE	SAN FRANCISCO	94122	1	(415)476-3001
UCSF MEDICAL CENTER AT MOUNT ZION	1600 DIVISADERO ST	SAN FRANCISCO	94115	1	
ARROYO GRANDE COMMUNITY HOSPITAL	345 S HALCYON RD	ARROYO GRANDE	93420	4.2	(805)489-4261
Santa Ynez Tribal Health Clinic	90 Via Juana Rd	Santa Ynez	93460	4.2	*805) 688-7070
SANTA YNEZ VALLEY COTTAGE HOSPITAL	700 ALAMO PINTADO RD	SOLVANG	93463	4.2	(805)688-6431
LUCILE SALTER PACKARD CHILDREN'S HOSP. AT STANFORD	725 WELCH RD	PALO ALTO	94304	1	(650)497-8000
SANTA CLARA VALLEY MEDICAL CENTER	751 S BASCOM AVE	SAN JOSE	95128	1	(408)885-1000
STANFORD HOSPITAL	300 PASTEUR DR	PALO ALTO	94305	1	(650)723-4000
MAYERS MEMORIAL HOSPITAL	43563 STATE HWY 299 E	FALL RIVER MILLS	96028	10.3	(530)336-5511
Mercy Family Practice Residency Program	2480 Sonoma Street	Redding	96001	1	
PIT RIVER HEALTH SERVICE, INC.	36977 PARK AVE	BURNEY	96013	7.3	530-335-3656
SHASTA COMMUNITY HEALTH CENTER	1035 PLACER ST	REDDING	96001	1	530-246-5710
EASTERN PLUMAS HOSPITAL-LOYALTON CAMPUS	700 THIRD ST	LOYALTON	96118	10.4	
KARUK TRIBAL HEALTH PROGRAM	1519 S OREGON ST	YREKA	96097	7	530-842-9200
MERCY MEDICAL CENTER MT. SHASTA	914 PINE ST	MOUNT SHASTA	96067	7	(530)225-6374
SONOMA VALLEY HOSPITAL	347 ANDRIEUX ST	SONOMA	95476	4.2	(707)935-5000
SUTTER MEDICAL CENTER OF SANTA ROSA	3325 CHANATE RD	SANTA ROSA	95404	1	(707)576-4200
OAK VALLEY CARE CENTER D/P SNF	275 S OAK AVE	OAKDALE	95361	4.1	
OAK VALLEY DISTRICT HOSPITAL (2-RH)	350 S OAK AVE	OAKDALE	95361	4.1	(209)847-3011
DEL NORTE FAMILY HEALTH CENTER	935A MARKET ST	YUBA CITY	95991	1	530-673-9420
ST. ELIZABETH COMMUNITY HOSPITAL	2550 SISTER MARY COLUMBA DR	RED BLUFF	96080	4	(530)225-6374
TRINITY HOSPITAL	410 N TAYLOR ST	WEAVERVILLE	96093	10	(530)623-5541
OROSI FAMILY MEDICAL CARE	12683 AVE 416	OROSI	93647	4.2	559-528-4717
TULARE DISTRICT HOSPITAL	869 N CHERRY ST	TULARE	93274	4.2	(559)688-0821
Tule River Indian Health Center, Inc.	M137 Reservation Road	Porterville	93258	2	(559) 784-2316

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SONORA REGIONAL MEDICAL CENTER - FAIRVIEW	179 FAIRVIEW LN	SONORA	95370	4	
SONORA REGIONAL MEDICAL CENTER - GREENLEY	1000 GREENLEY RD	Sonora	95370	4	
SONORA REGIONAL MEDICAL CENTER D/P SNF (UNIT 6 AND 7)	538 PONDEROSA DR	SONORA	95370	4	
TUOLUMNE GENERAL HOSPITAL	101 HOSPITAL RD	SONORA	95370	4	(209)533-7144
CLINICAS DEL CAMINO REAL, INCORPORATED, FILLMORE	355 CENTRAL AVE	FILLMORE	93015	4.2	805-524-4926
WOODLAND MEMORIAL HOSPITAL	1325 COTTONWOOD ST	WOODLAND	95695	4.2	(530)662-3961

YEAR TWO FACILITY	ADDRESS_1	CITY	ZIP CODE	RUCA CODE	PHONE
UC Berkeley Optometric Eye Center	Minor Hall	Berkeley	94720	1	
BIGGS GRIDLEY MEMORIAL HOSPITAL	240 SPRUCE ST	GRIDLEY	95948	7.3	(530)846-5671
Feather River Tribal Health - Oroville	2145 5th Ave	Oroville	95965	4.2	(530) 534-3793
FEATHER RIVER TRIBAL HEALTH, INC.	2145 5TH AVE	OROVILLE	95965	4.2	530-534-3793-265
GRIDLEY FAMILY HEALTH CENTER	520 KENTUCKY ST	GRIDLEY	95948	7.3	530-846-6231
LA PALOMA FAMILY HEALTH CENTER	1574 KIRK RD	GRIDLEY	95948	7.3	530-846-3707
Oroville Family Dentistry	479 Oro Damn Blvd.	Oroville	95966	4.2	
COLUSA FAMILY HEALTH CENTER	555 FREMONT ST	COLUSA	95932	7	530-458-8635
DEL NORTE COMMUNITY HEALTH CENTER	200 A ST	CRESCENT CITY	95531	4	707-465-6925-270
SMITH RIVER COMMUNITY HEALTH CENTER	110 FIRST STREET	SMITH RIVER	95567	5	707-487-0135
SUTTER COAST HOSPITAL	800 E WASHINGTON BLVD	CRESCENT CITY	95531	4	(707)464-8511
BARTON MEMORIAL HOSPITAL	2170 SOUTH AVE	SOUTH LAKE TAHOE	96150	4	(530)541-3420
EL DORADO COUNTY COMMUNITY HEALTH CENTER	4327 GOLDEN CENTER DR	PLACERVILLE	95667	4.2	530-621-7700
MARSHALL MEDICAL CENTER (1-RH)	1100 MARSHALL WAY	PLACERVILLE	95667	4.2	(530)626-2786
Shingle SpringsTribal Health Clinic	4140 Mother Lode Dr	Shingle Springs	95682	2	(916) 930-3981
COALINGA REGIONAL MEDICAL CENTER	1191 PHELPS AVE	COALINGA	93210	4.2	(559)936-6400
Kings View Behavioral Health Services	575 Locust Ave	Fresno	93720	1	
Kings View Behavioral Health Services	575 Locust Ave	Fresno	93720	1	
West Fresno Health Care Coalition	1135 Fresno St	Fresno	93706	1	
HAMILTON CITY MEDICAL CLINIC	231 MAIN ST	HAMILTON CITY	95951	2	530-826-3694
NORTHERN VALLEY INDIAN HEALTH, INC. - WILLOWS	207 N BUTTE ST	WILLOWS	95988	7	530-934-9293
ORLAND FAMILY HEALTH CENTER	1211 CORTINA DR	ORLAND	95963	7.3	530-865-5544
EUREKA COMMUNITY HEALTH CENTER	2412 BUHNE ST	EUREKA	95501	4	707-441-1624-161
GENERAL HOSPITAL, THE	2200 HARRISON AVE	EUREKA	95501	4	
HUMBOLDT OPEN DOOR CLINIC	770 10TH ST	ARCATA	95521	4	707-826-8610-175
K'ima:w Medical Center	1200 Airport Rd	Hoopa	95546	10.5	
MAD RIVER COMMUNITY HOSPITAL	3800 JANES RD	ARCATA	95521	4	(707)822-3621

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NORTHCOUNTRY CLINIC-ARCATA	785-18TH STREET	ARCATA	95521	4	707-822-2481
REDWOODS RURAL HEALTH CENTER. INC	101 WESTCOAST RD	REDWAY	95560	10	707-923-2783-336
SEMPERVIRENS P.H.F.	720 WOOD ST	EUREKA	95501	4	(707)268-2990
UNITED INDIAN HEALTH SERVICES, INC. - EUREKA	1600 WEEOT WAY	ARCATA	95521	4	707-825-5000
Clinicas de Salud del Pueblo (Niland)	309 E. Main Street	Niland	92257	10.6	
CLINICAS DE SALUD DEL PUEBLO, INC	900 MAIN ST	BRAWLEY	92227	4.2	760-344-6471
WINTERHAVEN HEALTH CLINIC	2133 WINTERHAVEN DR	WINTERHAVEN	92283	1	760-572-2700
Bishop Clinic	52 N Tu Su Ln	Bishop	93514	4	(760) 873-8461
KERN VALLEY HEALTHCARE DISTRICT	6412 LAUREL AVE	LAKE ISABELLA	93240	7.3	(760)379-2681
HANFORD COMMUNITY MEDICAL CENTER	450 GREENFIELD AVE	HANFORD	93230	4	(559)582-9000
SUTTER LAKESIDE HOSPITAL	5176 HILL RD E	LAKEPORT	95453	4	(707)262-5000
BIG VALLEY MEDICAL CENTER	554 MEDICAL CENTER DR	BIEBER	96009	10	530-294-5241
NORTHEASTERN HEALTH CENTER	1850 SPRING RIDGE DR	SUSANVILLE	96130	7	530-257-5563
Sonoma County Indian Health	144 Stony Point Rd	Santa Rosa	95401	1	(707) 983-6404
ANDERSON VALLEY HEALTH CENTER, INC	13500 AIRPORT RD	BOONVILLE	95415	10.5	707-895-3477
MENDOCINO COAST CLINICS, INC	205 SOUTH ST	FORT BRAGG	95437	7	707-964-1251
POTTER VALLEY COMMUNITY HEALTH CENTER	10175 MAIN ST	POTTER VALLEY	95469	5	707-743-1188
REDWOOD COAST MEDICAL SERVICES, INC	46900 OCEAN DR	GUALALA	95445	10	707-884-4005
ROUND VALLEY INDIAN HEALTH CENTER, INC.	HWY 162 AND BIGGER LN	COVELO	95428	10	707-983-6181-121
Castle Family Health Center	3605 Hospital Road	Atwater	95301	2	
DOS PALOS MEMORIAL HOSPITAL	2118 MARGUERITE ST	DOS PALOS	93620	9.2	(209)392-6121
MEMORIAL HOSPITAL LOS BANOS	520 W I ST	LOS BANOS	93635	4.2	(209)826-0591
CANBY FAMILY PRACTICE	670 COUNTY ROAD 83	CANBY	96015	10.3	530-233-4641-117
MINERS COMMUNITY CLINIC, INC.	700 ZION ST	NEVADA CITY	95959	4.2	530-265-7890
Northern Sierra Rural Health Network	138 New Mohawk Rd.	Nevada City	95959	4.2	
SIERRA FAMILY MEDICAL CLINIC, INC.	15301 TYLER FOOTE RD	NEVADA CITY	95959	5	530-292-1547-204
Chapa-De Indian Health Program	11670 Atwood Rd	Auburn	95603	1	(530) 887-2837
GREENVILLE RANCHERIA TRIBAL HEALTH PROGRAM-GREENVILLE	410 MAIN ST	GREENVILLE	95947	10	530-284-7990

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Plumas County Public Health Agency	1446 East Main Street	Quincy	95971	10	
PALO VERDE HOSPITAL	250 N 1ST ST	BLYTHE	92225	4	
HAZEL HAWKINS CONVALESCENT HOSPITAL - SUNSET	900 SUNSET DR	HOLLISTER	95023	4.2	
BEAR VALLEY COMMUNITY HOSPITAL	41870 GARSTIN DR	BIG BEAR LAKE	92315	4	(909)866-6501
San Manuel Health Care Center	2210 E Highland Ave	San Bernardino	92404	1	(909) 864-1097
San Manuel Health Care Center	2210 E Highland Ave	San Bernardino	92404	1	(909) 864-1097
ALPINE FAMILY MEDICINE	1620 ALPINE BLVD	ALPINE	91901	1	619-445-6200
Indian Health Council, Inc. - Valley Center	50100 Golsh Rd	Valley Center	92082	2	(760) 749-1410
LA MAESTRA FAMILY CLINIC - SOUTH FIRST	165 S 1ST ST	EL CAJON	92019	1	619-312-0647
LA MAESTRA FAMILY CLINIC, INC - FAIRMOUNT	4185 FAIRMOUNT AVE	SAN DIEGO	92105	1	619-584-1612
Sycuan Medical / Dental Center	5459 Sycuan Rd	El Cajon	92019	1	(619) 445-0707
Sycuan Medical/Dental Center	5442 Sycuan Road	El Cajon	92019	1	
BURNEY HEALTH CENTER	20641 COMMERCE WAY	BURNEY	96013	7.3	530-335-5457
HILL COUNTRY COMMUNITY CLINIC	29632 HWY 299 E	ROUND MOUNTAIN	96084	2	530-337-6243-22
SHINGLETOWN MEDICAL CENTER	31292 ALPINE MEADOWS RD	SHINGLETOWN	96088	2	530-474-3390
WESTERN SIERRA MEDICAL CLINIC	209 NEVADA ST	DOWNIEVILLE	95936	10.4	530-289-3298
BUTTE VALLEY HEALTH CENTER	610 W 3RD ST	DORRIS	96023	10.5	530-397-8411
FAIRCHILD MEDICAL CENTER	444 BRUCE ST	YREKA	96097	7	(530)842-4121
MT. SHASTA MEDI-CAL CLINIC	912 PINE ST	MT. SHASTA	96067	7	530-926-3653
SISKIYOU FAMILY HEALTHCARE	700 S MAIN ST	YREKA	96097	7	530-842-0817
SONOMA DEVELOPMENTAL CENTER	PO BOX 1493	ELDRIDGE	95431	4.2	
GREENVILLE RANCHERIA TRIBAL HEALTH PROGRAM-RED BLUFF	1425 MONTGOMERY RD	RED BLUFF	96080	4	530-528-8600
SOUTHERN TRINITY HEALTH SERVICES	153-A VAN DUZEN RD	MAD RIVER	95552	10.6	707-574-6616-102
Cutler-Orosi Joint Unified School District	12623 Avenue 416	Orosi	93647	4.2	
Dinuba Children's Services	724 N Alta Ave	Dinuba	93618	4.2	
Hillman Health Care Center	1062 South K Street	Tulare	93274	4.2	
Lindsay Unified School District	519 East Honolulu	Lindsay	93247	4.2	
Samaritan Center	200 NW 3rd Ave	Visalia	93291	1	
Sequoia Youth Services	514 N Kaweah	Exeter	93221	1	

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Tulare Health and Human Services	907 W. Visallia	Farmersville	93223	1	
Visalia Health Care Center	2611 N Dinuba Blvd	Visalia	93291	1	
Woodlake School District	300 West Whitney Avenue	Woodlake	93286	9.1	
Youth Service Bureau	300 School Street	Pixley	93256	9.1	
TUOLUMNE INDIAN HEALTH CENTER	18382 TUOLUMNE RD	TUOLUMNE	95379	5	209-928-4004

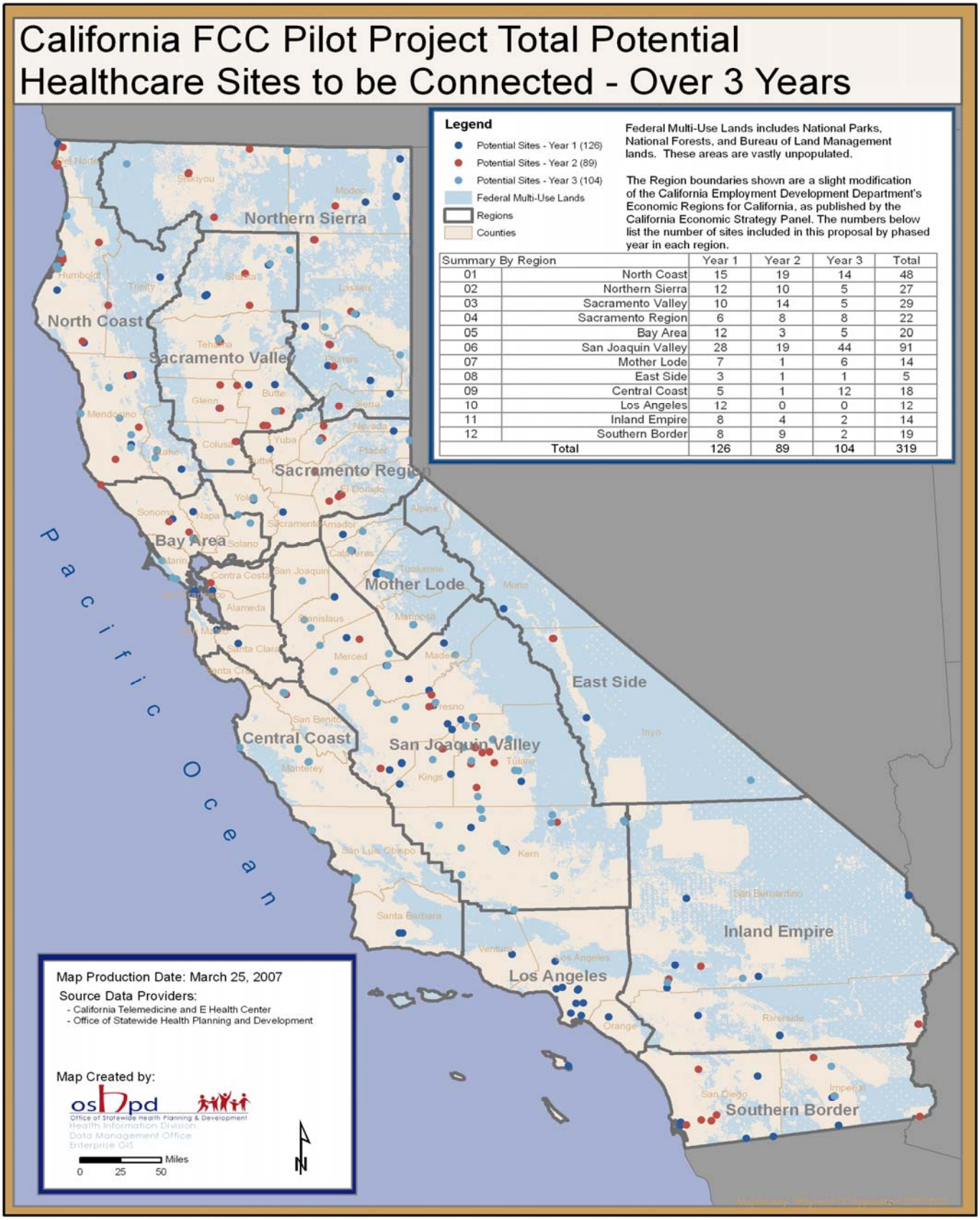
YEAR THREE FACILITY	ADDRESS_1	CITY	ZIP CODE	RUCA CODE	PHONE
OROVILLE FAMILY HEALTH CENTER	2800 LINCOLN ROAD	OROVILLE	95965	4.2	530-534-7500
COMMUNITY MEDICAL CENTERS	265 W SAINT CHARLES ST	SAN ANDREAS	95249	10.6	209-755-1400
WEST POINT COMMUNITY CLINIC	20693 HWY 26	WEST POINT	95255	10	209-293-4004
COLUSA INDIAN HEALTH CLINIC DBA ARBUCKLE MEDICAL O	900 KING ST	ARBUCKLE	95912	10.6	530-458-5501-247
BARTON MEMORIAL HOSPITAL FAMILY CLINIC	1090 3RD ST	SOUTH LAKE TAHOE	96150	4	530-543-5660
Sequoia Community Health Center	1945 N. Fine Ave	Fresno	93727	1	(559) 693-2398
UNITED HEALTH CENTERS OF THE SAN JOAQUIN VALLEY	121 BARBOZA ST	MENDOTA	93640	7.3	559-655-5000
UNITED HEALTH CENTERS OF THE SAN JOAQUIN VALLEY - FIREBAUGH	1133 P ST	FIREBAUGH	93622	7.3	559-659-1431
UNITED HEALTH CTRS OF SAN JOAQUIN VALLEY - ORANGE	445 11TH ST	ORANGE COVE	93646	7.4	559-626-4032
Valley Health Team	449 S Madera Ave	Kerman	93630	2	(559) 846-5252
VALLEY SMILES	21890 W COLORADO AVE	SAN JOAQUIN	93660	7.3	559-693-2462-281
EUREKA COMMUNITY HEALTH CENTER - BURRE DENTAL CTR.	959 MYRTLE AVE	EUREKA	95501	4	707-442-7078
MCKINLEYVILLE COMMUNITY HEALTH CENTER	1644 CENTRAL AVE	MCKINLEYVILLE	95519	4	707-839-3068
MOBILE MEDICAL OFFICE	301 P ST	EUREKA	95501	4	707-443-4666-22
ORICK COMMUNITY HEALTH CENTER	120918 HWY 101 N	ORICK	95555	10.2	707-488-2901
SECOND MOBILE UNIT	301 P ST	EUREKA	95501	4	707-443-4666-22
SIX RIVERS PLANNED PARENTHOOD	3225 TIMBERFALL COURT	EUREKA	95503	4	
BRAWLEY DENTAL CLINIC	1166 K ST	BRAWLEY	92227	4.2	760-344-9951
NILAND HEALTH CLINIC	8027 HWY 111	NILAND	92257	7.3	760-359-0110
DEATH VALLEY HEALTH CENTER	100 N STATE HWY 127	SHOSHONE	92384	5	760-852-4383
BUTTONWILLOW HEALTH CENTER	277 E FRONT ST	BUTTONWILLOW	93206	10.1	661-764-5211
Clinica Sierra Vista	3550 Q St Suite 304	Bakersfield	93301	1	(661) 324-1455
Clinica Sierra Vista	1430 Truxton Ave Suite 400	Bakersfield	93302	1	(661) 635-3050
Clinica Sierra Vista	815 Lakeview Ave	Bakersfield	93307	1	(661) 322-3905
Clinica Sierra Vista	234 Baker St	Bakersfield	93305	1	(661) 322-7580

YEAR THREE FACILITY	ADDRESS_1	CITY	ZIP CODE	RUCA CODE	PHONE
COMMUNITY HEALTH CENTER	21138 PASO ROBLES HWY	LOST HILLS	93249	10.4	661-797-2667
DELANO COMMUNITY HEALTH CENTER	1508 GARCES HWY	DELANO	93215	4.2	661-725-4780
DELANO FAMILY DENTAL CENTER AND WOMEN'S HEALTH CENTER	1215 JEFFERSON ST	DELANO	93215	4.2	661-454-1700
FRAZIER MOUNTAIN COMMUNITY HEALTH CENTER	704 LEBEC ROAD	LEBEC	93243	3	661-248-5250
JOY CARINO KIMPO FAMILY MEDICAL CENTER	1001 MAIN ST	DELANO	93215	4.2	661-721-7080
KERN RIVER HEALTH CENTER	67 EVANS RD	WOFFORD HEIGHTS	93285	2	760-376-2276
KERN VALLEY MEDICAL CENTER	6310 LAKE ISABELLA BLVD	LAKE ISABELLA	93240	7.3	760-379-2415
MC FARLAND COMMUNITY HEALTH CENTER	217 E KERN AVE	MC FARLAND	93250	5	661-793-3038
PREGNANCY CARE CENTER	128 S SILVER RIDGE ST	RIDGECREST	93555	4	760-384-2273
RIDGECREST COMMUNITY HEALTH CENTER	900 N HERITAGE DR	RIDGECREST	93555	4	760-446-7978
TAFT COMMUNITY MEDICAL CENTER AND DENTAL CENTER	1100 4TH ST	TAFT	93268	4.2	661-764-5044
TEHACHAPI COMMUNITY MEDICAL AND DENTAL CENTER	161 N MILL ST	TEHACHAPI	93561	4	
Family Healthcare Network	6505 Ave 308	Goshen	93227	1	(559) 651-1100
TACHI MEDICAL CENTER	16835M ALKALI DR	LEMOORE	93245	10.5	559-299-2578-115
LAKE COUNTY TRIBAL HEALTH CONSORTIUM, INC.	925 BEVINS CT	LAKEPORT	95453	4	707-263-8382
MENDOCINO COMMUNITY HEALTH CLINIC -LAKESIDE CLINIC	5335 LAKESHORE BLVD	LAKEPORT	95453	4	707-468-1010-4511
DOYLE FAMILY PRACTICE	436-435 OLD HIGHWAY RD	DOYLE	96109	10.4	530-827-2104
LASSEN INDIAN HEALTH CENTER	795 JOAQUIN ST	SUSANVILLE	96130	7	530-257-2542-5184
WESTWOOD FAMILY PRACTICE	209 BIRCH ST	WESTWOOD	96137	10.6	530-256-3152
DARIN M. CAMARENA HEALTH CENTERS, INC.- CHOWCHILLA	401 TRINITY AVE	CHOWCHILLA	93610	7	559-665-1400
NORTH FORK INDIAN AND COMMUNITY HEALTH CENTER	32938 ROAD 222	NORTH FORK	93643	10.4	559-299-2578-115
BOLINAS FAMILY PRACTICE	7 WHARF RD	BOLINAS	94904	10.4	415-868-0124
POINT REYES MEDICAL CLINIC	3 6TH ST	POINT REYES	94956	10.4	415-663-8666
STINSON BEACH MEDICAL CENTER	3419 HWY 1	STINSON BEACH	94970	10.4	415-868-9656
MARIPOSA INDIAN HEALTH CLINIC	5192 HOSPITAL RD	MARIPOSA	95338	10	209-742-6114
CONSOLIDATED TRIBAL HEALTH PROJECT	6991 N STATE ST	REDWOOD VALLEY	95470	4	707-485-5115

YEAR THREE FACILITY	ADDRESS_1	CITY	ZIP CODE	RUCA CODE	PHONE
LONG VALLEY HEALTH CENTER	50 BRANSCOMB RD	LAYTONVILLE	95454	10	707-984-6131-117
LONG VALLEY HEALTH CENTER DENTAL CLINIC	51 BRANSCOMB RD	LAYTONVILLE	95454	10	707-984-8222
MENDOCINO COAST CLINICS, INC.	855 SEQUOIA CIRCLE	FORT BRAGG	95437	7	
MENDOCINO COMM. HEALTH CLINIC-LITTLE LAKE CLINIC	45 HAZEL ST	WILLITS	95490	7.4	707-468-1010-4511
MENDOCINO COMMUNITY HEALTH CLINIC, INC.	333 LAWS AVE	UKIAH	95482	4	707-468-1010-4511
GOLDEN VALLEY HEALTH CENTER - DOS PALOS	1405 CALIFORNIA AVE	DOS PALOS	93620	9.2	203-383-1848-405
GOLDEN VALLEY HEALTH CENTER - LOS BANOS	821 TEXAS AVE	LOS BANOS	93635	4.2	209-383-1848-405
GOLDEN VALLEY HEALTH CENTER-LE GRAND	13161 JEFFERSON ST	LE GRAND	95333	10.4	209-383-1848-405
GOLDEN VALLEY HEALTH CENTERS-I ST.LOS BANOS	725 W I ST	LOS BANOS	93635	4.2	209-383-1848-405
BIG SUR HEALTH CENTER	46896 HWY 1	BIG SUR	93920	10.1	831-667-2580
CLINICA DE SALUD DEL VALLE DE SALINAS - GREENFIELD	808 OAK AVE	GREENFIELD	93927	4.2	831-674-5344
CLINICA DE SALUD DEL VALLE DE SALINAS-BROADWAY	809 BROADWAY ST	KING CITY	93930	4.2	831-385-5944
CLINICA POPULAR-KING CITY	223 BASSETT ST	KING CITY	93930	4.2	831-385-5945
PLANNED PARENTHOOD - GREENFIELD	598 WALNUT AVE	GREENFIELD	93927	4.2	831-674-2200
CHAPA-DE INDIAN HEALTH PROGRAM, INC.	1061 E MAIN ST	GRASS VALLEY	95945	4.2	530-477-8545
PLACER MEDICAL CLINIC - TAHOE (RH)	8665 SALMON AVE	KINGS BEACH	96143	4.2	530-889-7228
COMPASSION PREGNANCY SERVICES	483 5TH ST	HOLLISTER	95023	4.2	831-637-4020
SAN BENITO HEALTH FOUNDATION	351 FELICE DR	HOLLISTER	95023	4.2	831-637-5783
HI DESERT PREGNANCY CENTER	56659 29 PALMS HWY STE G	YUCCA VALLEY	92284	4.2	760-369-8512
SAC NORTON	1454 E 2ND ST	SAN BERNARDINO	92409	10	909-382-7100
Community Medical Centers	7210 Murray Dr	Stockton	95201	1	(209) 373-2878
COASTAL MEDICAL CENTER	336 S HALCYON RD	ARROYO GRANDE	93420	4.2	805-929-3211
COMMUNITY HEALTH CENTERS - OCEANO	1981 CIENAGA ST	OCEANO	93445	4.2	805-929-3211
COMMUNITY HEALTH CENTERS, CAMBRIA	2515 MAIN STREET	CAMBRIA	93428	7	805-929-3211
DOCTORS'OFFICE/FAIR OAKS COMMUNITY HEALTH CTRS.	1057 E GRAND AVE	ARROYO GRANDE	93420	4.2	805-929-3211

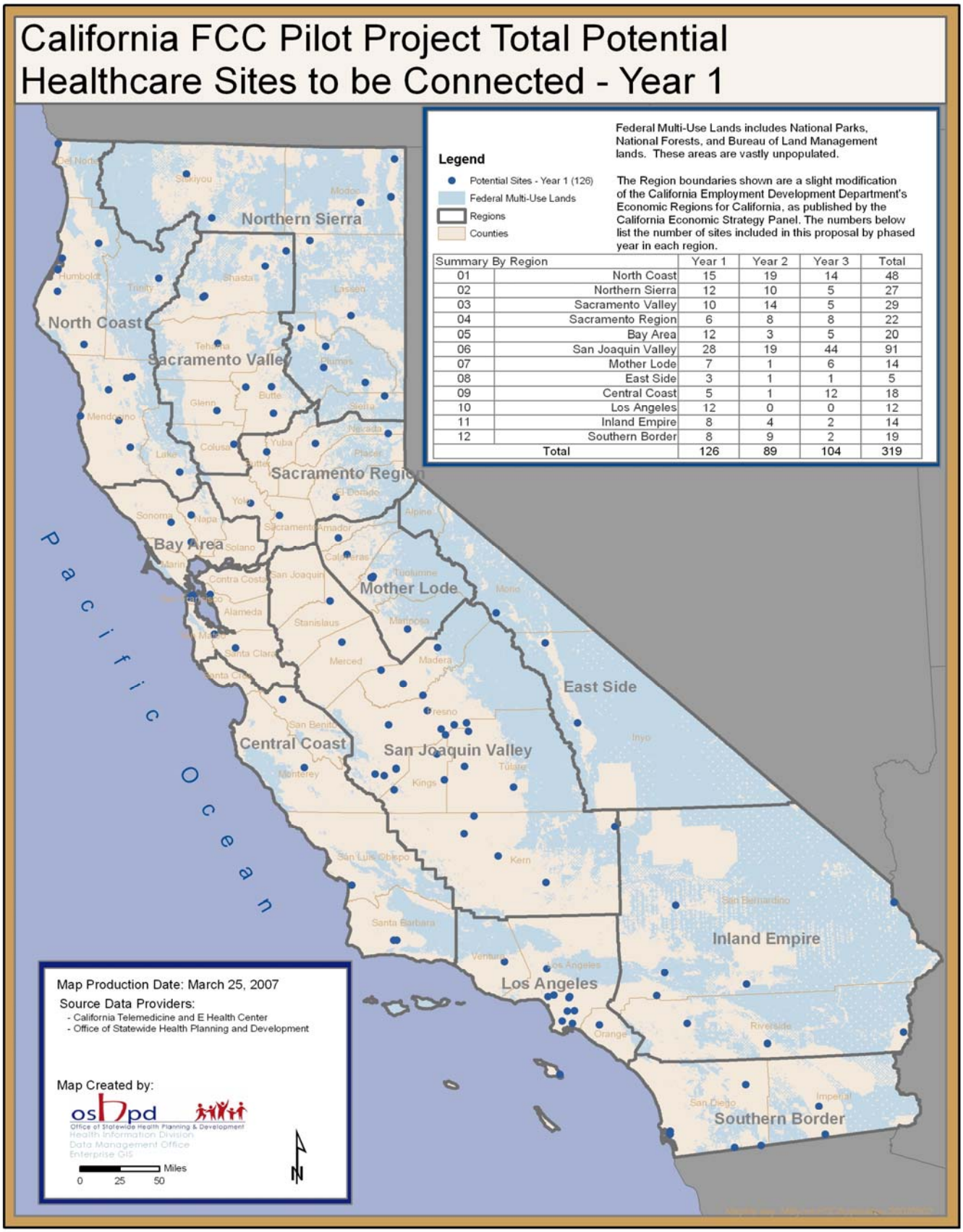
YEAR THREE FACILITY	ADDRESS_1	CITY	ZIP CODE	RUCA CODE	PHONE
EOC HEALTH SERVICES-ARROYO GRANDE SITE	1152 E GRAND AVE	ARROYO GRANDE	93420	4.2	805-489-4026
CASCADE HEALTH CENTER	37394 CASCADE AVE	BURNEY	96013	7.3	530-335-2954
FALL RIVER VALLEY HEALTH CENTER	43563 STATE HWY 299 E	FALL RIVER MILLS	96028	10.3	530-294-5241
HAPPY CAMP HEALTH SERVICES/KARUK TRIBAL HEALTH	38 PARK WAY	HAPPY CAMP	96039	10	530-493-5257
TULELAKE HEALTH CENTER	498 MAIN ST	TULELAKE	96134	10.5	530-667-2285
DIXON FAMILY PRACTICE	131 W A ST	DIXON	95620	4.2	707-635-1600
SONOMA VALLEY COMMUNITY HEALTH CENTER	430 W NAPA ST	SONOMA	95476	4.2	707-939-6070
GOLDEN VALLEY HEALTH CENTER - GUSTINE-NEWMAN	151 STATE HIGHWAY 33	NEWMAN	95360	9.1	209-383-1848-405
GOLDEN VALLEY HEALTH CENTER-PATTERSON	200 C ST	PATTERSON	95363	4.2	209-383-1848-405
GOLDEN VALLEY HEALTH CENTER-WESTLEY	301 HOWARD RD	WESTLEY	95387	10.4	209-383-1848-405
NORTHERN VALLEY INDIAN HEALTH, INC.	343 OAK ST	RED BLUFF	96080	4	530-829-2567
ALTA FAMILY HEALTH CLINIC, INC.	888 N ALTA AVE	DINUBA	93618	4.2	559-595-1000
Best Health Care Center	134 North Davis Ave.	Pixley	93265	2	559 757-1222.
FAMILY HEALTHCARE NETWORK	35800 HIGHWAY 190	SPRINGVILLE	93265	2	559-539-2324
FAMILY HEALTHCARE NETWORK	41651 SIERRA DR	THREE RIVERS	93271	10.1	559-561-4683
FAMILY HEALTHCARE NETWORK	12586 AVENUE 408	OROSI	93647	4.2	559-528-2804
FAMILY HEALTHCARE NETWORK	101 N PALM ST	WOODLAKE	93286	9.1	559-564-0100
TULARE COMMUNITY HEALTH CLINIC	1101 N CHERRY ST	TULARE	93274	4.2	559-686-9097
UNITED HEALTH CENTERS OF THE SAN JOAQUIN VALLEY	476 EAST WASHINGTON ST	EARLIMART	93219	6	661-849-2781
WOODLAKE FAMILY HEALTH CENTER	180 E ANTELOPE AVE	WOODLAKE	93286	9.1	559-564-3538
MACT INDIAN DENTAL CLINIC	18670 CARTER ST	TUOLUMNE	95379	5	209-928-4279
SONORA INDIAN HEALTH CLINIC	13975 MONO WAY	SONORA	95370	4	209-533-9600
TUOLUMNE ME-WUK INDIAN HEALTH CENTER	18880 CHERRY VALLEY BLVD	TUOLUMNE	95379	5	
CHAPA-DE INDIAN HEALTH PROGRAM, INC	175 W COURT ST	WOODLAND	95695	4.2	530-661-4400
PETERSON CLINIC	8 N COTTONWOOD ST	WOODLAND	95695	4.2	530-666-8960
PLANNED PARENTHOOD - WOODLAND	520 COTTONWOOD ST	WOODLAND	95695	4.2	530-662-4646
WINTERS HEALTHCARE CLINIC	23 MAIN ST	WINTERS	95694	7.3	530-795-4377
SUTTER NORTH BROWNSVILLE FAMILY PRACTICE CENTER	16911 WILLOW GLEN RD	BROWNSVILLE	95919	10.4	530-675-2458

California FCC Pilot Project Total Potential Healthcare Sites to be Connected - Over 3 Years



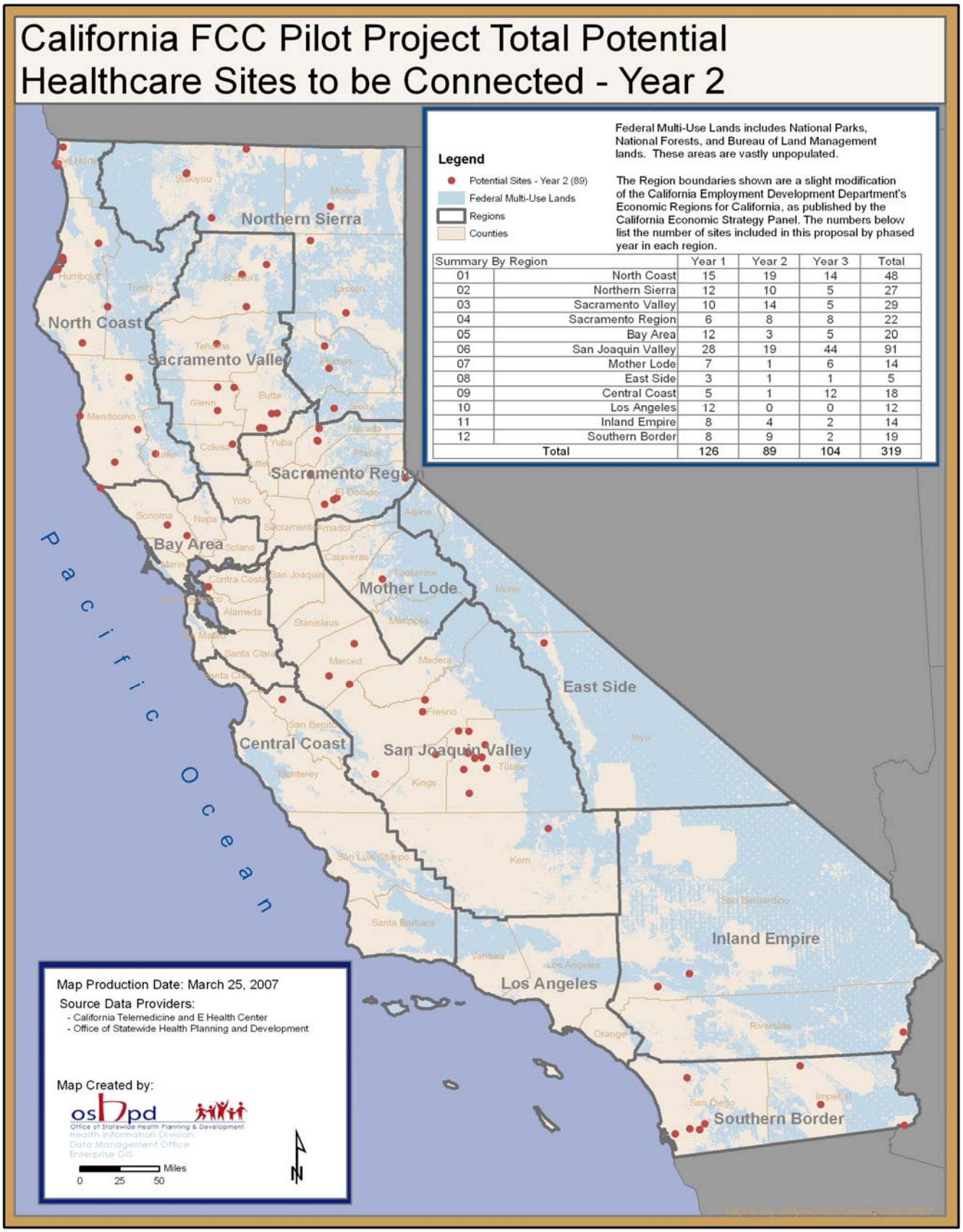
Summary By Region		Year 1	Year 2	Year 3	Total
01	North Coast	15	19	14	48
02	Northern Sierra	12	10	5	27
03	Sacramento Valley	10	14	5	29
04	Sacramento Region	6	8	8	22
05	Bay Area	12	3	5	20
06	San Joaquin Valley	28	19	44	91
07	Mother Lode	7	1	6	14
08	East Side	3	1	1	5
09	Central Coast	5	1	12	18
10	Los Angeles	12	0	0	12
11	Inland Empire	8	4	2	14
12	Southern Border	8	9	2	19
	Total	126	89	104	319

California FCC Pilot Project Total Potential Healthcare Sites to be Connected - Year 1



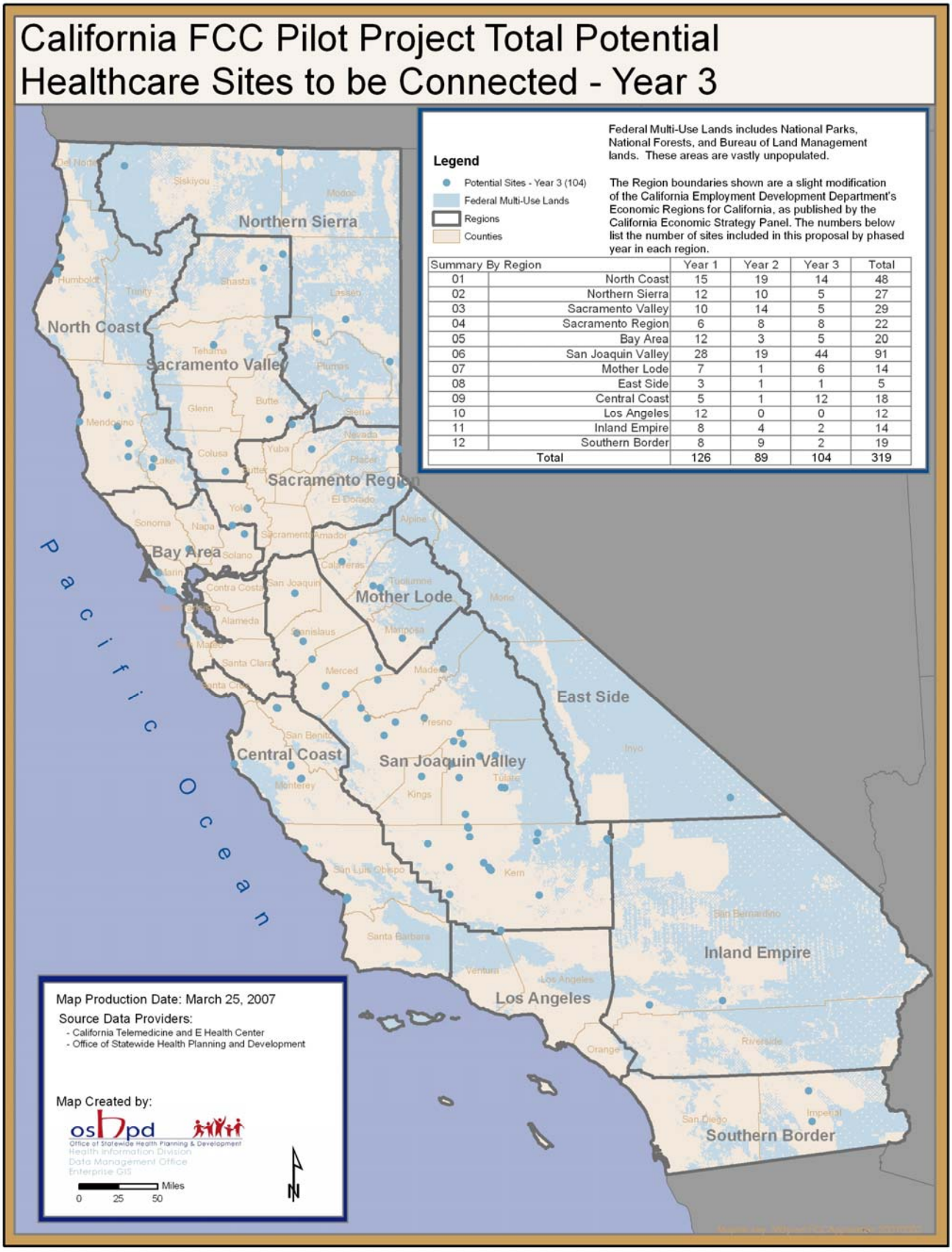
Summary By Region		Year 1	Year 2	Year 3	Total
01	North Coast	15	19	14	48
02	Northern Sierra	12	10	5	27
03	Sacramento Valley	10	14	5	29
04	Sacramento Region	6	8	8	22
05	Bay Area	12	3	5	20
06	San Joaquin Valley	28	19	44	91
07	Mother Lode	7	1	6	14
08	East Side	3	1	1	5
09	Central Coast	5	1	12	18
10	Los Angeles	12	0	0	12
11	Inland Empire	8	4	2	14
12	Southern Border	8	9	2	19
	Total	126	89	104	319

California FCC Pilot Project Total Potential Healthcare Sites to be Connected - Year 2



Summary By Region		Year 1	Year 2	Year 3	Total
01	North Coast	15	19	14	48
02	Northern Sierra	12	10	5	27
03	Sacramento Valley	10	14	5	29
04	Sacramento Region	6	8	8	22
05	Bay Area	12	3	5	20
06	San Joaquin Valley	28	19	44	91
07	Mother Lode	7	1	6	14
08	East Side	3	1	1	5
09	Central Coast	5	1	12	18
10	Los Angeles	12	0	0	12
11	Inland Empire	8	4	2	14
12	Southern Border	8	9	2	19
	Total	126	89	104	319

California FCC Pilot Project Total Potential Healthcare Sites to be Connected - Year 3



Summary By Region		Year 1	Year 2	Year 3	Total
01	North Coast	15	19	14	48
02	Northern Sierra	12	10	5	27
03	Sacramento Valley	10	14	5	29
04	Sacramento Region	6	8	8	22
05	Bay Area	12	3	5	20
06	San Joaquin Valley	28	19	44	91
07	Mother Lode	7	1	6	14
08	East Side	3	1	1	5
09	Central Coast	5	1	12	18
10	Los Angeles	12	0	0	12
11	Inland Empire	8	4	2	14
12	Southern Border	8	9	2	19
	Total	126	89	104	319

8. Previous Experience

The University of California (UC) system operates the largest health sciences instructional program in the nation, annually enrolling more than 13,000 students in fifteen schools located on seven UC campuses. These programs generate more than one billion dollars annually in research funding and provide an extensive array of primary care and specialty services to millions of Californians each year. The University of California is statutorily designated as California's research university and has a long history of accountability and responsibility for management of both systemwide and statewide initiatives. The UC Office of the President oversees and supports the activities of the 10-campus system.

The University of California has a record of success in the development and management of telemedicine programs, as well as significant expertise available at its campuses. The University of California, Davis Health System (UCDHS) has been selected to serve as the lead technical entity for the proposed project network. UCDHS has extensive experience, and has developed one of the nation's leading telehealth programs. In 2006, the UCDHS Center for Health and Technology (CHT) was awarded the American Telemedicine Association President's Award for their advancement of telemedicine; breadth of telemedicine services; and effectiveness at improving the health care of rural patients. UCDHS' Telemedicine Program provides direct clinical care to patients at a distance through a variety of innovative telemedicine applications, including video-based consultations, emergency room and intensive care unit consultation, video interpreting, quality assurance for sexual assault exams, telepharmacy, home telehealth, and store-and-forward services such as pediatric telecardiology and teleradiology. Consultation services are available in more than forty specialties serving more than 125 sites, approximately 85 of which are located in, or provide services to rural areas. The CHT collaborates with a range of professionals including physicians, educators, information technology and communications specialists, scientific engineers and researchers to develop and evaluate information and telecommunications technologies that improve access to high-quality patient care. Since 1997, UCDHS has received over $28 million in extramural funding related to telehealth and informatics.

Outpatient Telemedicine at UCDHS. Over the past 10 years, telemedicine in the outpatient clinical setting has grown significantly in California. Since the start of the UCDHS telemedicine program, over 16,000 outpatient telemedicine consultations have been provided by UCDHS specialists to outlying rural areas. The initial affordability of ISDN made telemedicine services attainable in many rural areas, resulting in UCDHS providing outpatient consultations to over 118 remote sites. Telemedicine has become the standard for outpatient specialty referrals in many rural areas of California, rather than the exception. Overall, the outpatient telemedicine program has achieved high satisfaction ratings in all provided specialties.

Inpatient Telemedicine. The success of outpatient telemedicine has led to the more recent expansion of telemedicine for inpatient specialty services. UCDHS offers medication review for inpatient pharmacy orders and real-time visual medication review of drugs removed from the pharmacy after-hours to six small hospitals. While many remote hospitals still rush urgent neonatal echo video tapes by taxi to UCDHS pediatric cardiologists, four hospitals now use videoconferencing and electronic store-and-forward to receive much quicker access to pediatric cardiologists in emergency situations. Critically ill children presenting to rural emergency departments receive immediate access to real-time pediatric critical care telemedicine consultations in the emergency room at nine rural hospitals in California and Nevada.

UCDHS Telecommunications Network Experience. UCDHS Information Services Division (IS) is responsible for design, installation and maintenance of the majority of the network and computing resources that are essential to UCDHS clinical, academic and administrative activities. IS works in close cooperation with the CHT in order to provide highly coordinated, seamless services to both internal and external CHT clients and partners. The IS Division comprises a staff of over 200 technical and administrative personnel, supporting a wide complement of hardware and software environments. These include the following:

- Two geographically dispersed, but highly complementary data centers, staffed 24/7, operating in full mutual fail-over support mode, providing highly secure and reliable service;

- A complement of over 500 servers distributed between the two data centers, comprised of two large IBM mainframe computers, 50 very high performance UNIX servers, together will over 400 Intel-based multiprocessor servers;

- A state-of-the-art network with multi-gigabit backbone, comprising over 20,000 nodes, approximately 3,000 of which are remotely located at geographically dispersed locations encompassing over 10,000 square miles of territory in Northern California and beyond;

- Over 8,000 PC workstations and 3,500 printers distributed throughout UCDHS venues. Sophisticated remote management software tools have been employed on each workstation that permit a centrally located staff of highly skilled technicians to monitor, diagnose and maintain the systems on a 24/7 basis;

- Approximately 200 separate software applications that include the full spectrum of clinical, administrative and academic disciplines. Staffs of over 75 programmers provide comprehensive application support. Several applications developed at UCDHS have now been implemented at multiple campuses and medical centers, as well as having been purchased by various non-UC entities; and

- A comprehensive telephone, pager and cellular phone support for UCDHS. IS maintains a dedicated PBX comprising over 12,000 extensions together with dedicated support for all ancillary services.

UCDHS IS is actively involved in various state and national initiatives to develop next-generation network infrastructures. IS is also an active participant in numerous security groups and initiatives and has a full-time, dedicated security management staff that provide comprehensive network and computing system security support for all UCDHS entities. IS is frequently consulted by regional and rural health organizations and providers, requesting assistance with security and other computing best practices.

9. Project Management Plan

Leadership and Management Structure

UC will serve as the managing entity for the project, and will determine the legal responsibilities of vendors, stakeholders, and other organizations committing to financial responsibility and additional support of the Network. UCDHS will oversee the technical deployment and administrative aspects of the Network.

As the fiscal intermediary and project manager for the partnership, UCOP and UCDHS will utilize a proactive approach to assure success of the program by using its expertise to oversee and conduct activities supported by the funds, including:

- Managing grant funds with dedicated, professional experts who have significant experience in the areas of grants management, contract oversight, coordination of effort by public and private partners, as well as the technical and clinical aspects of health IT project design and implementation;
- Defining overall network requirements and purchasing equipment based on the types of telehealth applications that the network will have to support;
- Managing contracts with telecommunication companies to construct and provide services to the network;
- Developing contracts with project partners and distributing funds to appropriate parties and vendors to fulfill the obligation of the grant, including subcontracts;
- Managing FCC reporting and compliance;
- Managing Universal Services reimbursement processes;
- Developing and managing the Program Advisory Board;
- Training of remote staff; and
- Providing technical support including site assessments, installations, and feedback mechanisms, leveraging years of combined experience at developing and supporting telemedicine programs in a wide range of specialties and environments.

California Telehealth Network Program Advisory Board

Role and Responsibilities. The overall role and responsibility of the California Telehealth Network Program Advisory Board (Advisory Board) for the FCC Rural Health Care Pilot Program Grant is to advise the University of California Office of the President and the UC Davis Health System (Project Leaders) on

the development, management and implementation of the pilot project. Areas of responsibility will include:

Policy and Programmatic Guidance

- Establishment of a process and mechanism for ongoing consultation with and input from health care providers in the pilot project, including the sharing of lessons learned;
- Establishment of a process and mechanism to identify specific telehealth and telemedicine services to be provided and to recommend adoption of protocols for delivery of services (as needed);
- Development and approval of methods for monitoring and evaluating the effects of telehealth and telemedicine services on patients and health care delivery systems;
- Modification and revision to the service protocols, requisite broadband connections and telemedicine equipment as needed to improve patient outcomes based on evaluation results;
- Facilitation of a productive working relationship with stakeholders;
- Identification and recruitment of additional project partners and new network subscribers; and
- Implementation of the pilot program and assurance of compliance with the requirements and conditions of the FCC grant.

Technical Guidance

- Identification and specification of the requisite broadband connections for the pilot and identification and specification of the requisite equipment for telehealth and telemedicine services; and
- Development and oversight of a process for inviting competitive bids for connections between the backbone and the rural clinics and hospitals.

Financial/Business Guidance and Oversight

- Provision of guidance and assistance in securing funding for approved activities and needed investments for the project, including requisite equipment for telehealth and telemedicine services; and
- Development of a business model for sustainability of the system.

Composition. It is recognized that the University of California, as the fiscal agent and managing partner, is accountable and responsible to the UC Board of Regents. Thus, while the Advisory Board is clearly an advisory body to UC, it is intended to be an actively engaged stakeholder group that works directly and collaboratively with UC on all aspects of the project. Advisory Board members are expected to provide the assistance and guidance necessary to ensure successful implementation of the project. Members of the Advisory Board are encouraged and expected to share ownership for both the success and any failures of the pilot project. The Advisory Board will consist of individuals representing a defined number of agencies

and organizations who have an investment or fiduciary responsibility in the implementation of the project. The following is the recommended composition:

Co-Chairs and Staff
- UCOP and UCDHS (2)

State Agencies and Investors
- California Health and Human Services Agency (1)
- California Business, Transportation and Housing Agency (1)
- California Department of Managed Health Care (1)
- California Public Utilities Commission (1)
- California Emerging Technology Fund (1)

Provider Groups
- California Telemedicine Network Directors (or designees) (3)

Associations
- California Hospital Association/California Telemedicine & eHealth Center (1)
- California State Rural Health Association (1)
- California Primary Care Association (1)

Technical Experts
- Cal IT2 - California Institute for Telecommunications and Information Technology (1)
- Other technical expert TBD (1)

The Program Advisory Board will also consider appointment of several workgroups to support its efforts and bring added expertise to issues such as technical and operations security issues; advanced technology and research; finance and sustainability; emergency response and disaster recovery; and provider issues.

Principal Partners and Roles

A core strength of the proposed California Telehealth Network is the partnerships established for leadership and management of the project. Following are a listing of partners and their roles:

Health Care Providers:

The University of California System (UC). The University of California, governed by a 26-member Board of Regents, will be legally and financially responsible for the implementation of the activities proposed in this application. The University of California Office of the President (UCOP) and the UC Davis Health System (UCDHS) will share responsibility for the management of the project and the development of the proposed new statewide network. The UC Office of the President, located in Oakland, California, will manage the overall grant, provide all information required by the FCC as part of the grant, and facilitate the activities of partnering organizations and entities as outlined in the application. The UCDHS will serve as the technical network lead and provide the expertise necessary for assuring the successful development of new telemedicine programs statewide.

The UC Office of the President oversees and supports the activities of the 10-campus system, including undergraduate and graduate academic affairs, state and federal governmental relations, state and federal budget matters, legal issues, health sciences and clinical activities, and the overall business and financial affairs of the system. The Office of the President manages the three national labs and oversees statewide agricultural and natural resources services based in all of California's 58 counties. The UC system also operates the largest health sciences instructional program in the nation, annually enrolling more than 13,000 students in fifteen schools located on seven campuses. These programs generate more than one billion dollars annually in research funding. UC's five academic medical centers support the clinical teaching programs of the system's health sciences schools, managing more than 138,000 inpatient discharges, 261,000 emergency room visits and over 3.6 million outpatient visits each year. UC is statutorily designated as California's research university and has a long history of accountability and responsibility for management of complex systemwide and statewide initiatives. The University's total General Fund (state-funded) budget for operations in 2006-07 is more than $3.6 billion.

The UC Davis Health System will serve as the lead technical entity and coordinate the network. UCDHS has extensive experience in telehealth and continues to receive national recognition for the breadth, depth, and quality of its programs. In 2006, UCDHS's Center for Health and Technology was awarded the American Telemedicine Association President's Award for their advancement of telemedicine; breadth of telemedicine services; and effectiveness at improving the health care of rural Californians. The UCDHS Telemedicine Program provides direct clinical care to patients at a distance through a variety of innovative telemedicine applications, including video-based consultations, emergency room and intensive care unit consultation, video interpreting, quality assurance for sexual assault exams, telepharmacy, home telehealth, and store-and-forward services such as pediatric telecardiology and teleradiology. Consultation services are available in more than forty specialty services serving more than 125 sites, approximately 85 of which are located in, or provide services to, rural areas.

- The Corporation for Education Network Initiatives in California (CENIC), a 501(c)(3), non-profit entity which includes representatives from public and private higher education entities and the K-12 education community in California. CENIC designs, implements, and operates the California Research and Education Network (CalREN), a high-bandwidth, high-capacity network specifically designed to meet the requirements of these academic communities. CalREN consists of a fiber backbone ring that connects California's K-12 education sites, college and university campuses, and the UC, USC and Stanford medical centers via a combination of fiber and more than 200 telecom circuits. The CalREN backbone is connected to Internet2 and National LambdaRail.

Rural health networks and coalitions. A number of existing California telehealth networks and coalitions (and their provider sites) provide primary care and other clinical services to their communities.

- The Northern Sierra Telehealth Network is an existing telehealth network that supports 29 rural and safety-net providers with a variety of telehealth activities. Since 1999, the network has been operated by Northern Sierra Rural Health Network (NSRHN), which is a non-profit corporation whose members include more than 40 rural clinics, rural hospitals, public health departments and other providers. NSRHN serves the nine rural counties of Nevada, Plumas, Sierra, Lassen, Modoc, Siskiyou, Trinity, Shasta and Tehama. Among the distinguishing characteristics of these regions is the lack of community, technology and social-service resources, and isolation from other communities in the region. NSRHN members have conducted more than 4,400 clinical telehealth consultations and over 1,100 distance learning, continuing medical education and other telehealth events.

The network has developed a successful model for serving many communities in the service area by aggregating the needs of patients and providers, acquiring resources on behalf of the aggregated membership, and managing these resources on a regional basis. Used successfully for more than ten years, this approach provides economies of scale and efficient use of resources, and brings new technologies to isolated providers who would be otherwise unable to afford and/or access them.

- The Community Clinics Health Network (CCHN) is a 501(c)(3), non-profit subsidiary of the Council of Community Clinics, founded in 1993 to provide managed care contracting and management support to San Diego's community health centers. CCHN enhances quality of care, improves population health outcomes and strengthens business efficiencies by offering specialized programs, services and technical expertise to more than 30 community clinics and health organizations.

  CCHN provides technical expertise in quality and operational management and managed care support including contracting, utilization review and credentialing. CCHN also provides quality improvement and disease management services to participating community health centers. CCHN manages a comprehensive videoconferencing / telemedicine network that span San Diego, Imperial and Riverside Counties, currently with a project extending telemedicine services to eleven remote community clinics in three counties to ensure that residents have access to clinical and specialty services not available in their local community, as well as to bring educational resources and training to rural health care providers. The CCHN videoconferencing system provides clinical and specialty care through direct telemedicine (provider to patient) and indirect telemedicine (provider to provider) and supports eHealth education for mental health providers.

- Central Valley Health Network (CVHN) consists of thirteen community health center organizations with over one hundred clinical sites in California's "Central Valley." CVHN's service area is approximately 22,500 square miles. In 2006, CVHN health centers served approximately 529,000 patients and had over 2.1 million visits. Member organizations have had some experience with telemedicine, but it is not yet in wide or frequent use. The CVHN intends to leverage its nascent videoconference network to develop a centrally-administered telemedicine program and to expand that program to as many of its 100-plus sites as possible over the next two years.

- The Southern Sierra Telehealth Network (SSTN) was established in 2000 with a grant from the California Telemedicine and e-Health Center (CTEC) (formerly the California Telemedicine and Telehealth Center). The network conducted its first telemedicine consult in 2001 – with this number growing to a total of 1,236 interactive video consultations in 2006. Clinical services include adult psychiatry, pediatric psychiatry, geriatric psychiatry, cardiology, medicine, developmentally disabled services, dermatology, ophthalmology, and other services as needed. Most services are interactive video, store-and-forward dermatology services are also offered. The SSTN network is connected to teaching hospitals, non-teaching facilities, and other consultant groups throughout Southern California, as well as with individual consultant providers from San Francisco to Orange County. Direct connections with other sites have also been supported (including Catalina Island Medical Center, Tehachapi Medical Clinic, Toiyabe Indian Health Project). The network is developing HDV applications, which have proven to be superior to standard video for clinical decision-making in telepsychiatry and other applications.

- Open Door Health Network/Open Door Community Health Center (ODCHC) was founded in 1971 to provide health services and preventive health education to residents of Humboldt and Del Norte Counties and to surrounding rural areas of northwestern California. Over the past 36 years, ODCHC has grown from a single storefront site to ten clinics and one mobile dental unit. The Open Door Community Health Center provides services to everyone, regardless of the ability to pay or immigration status. Each year, the center provides over 130,000 medical, dental and mental health visits to 33,000 individuals – or nearly one quarter of the primary care services delivered in the same area. Patients include the uninsured, the homeless, seasonal farm-workers, individuals on Medicaid and Medicare, as well as those with private insurance.

  The North Coast TeleMed Network, operated by the ODCHC, provides specialty care through the use of technology that links rural California clinics to a hub site where medical specialists provide consultations. Some clinics now use telemedicine to link to providers in large urban tertiary care centers. The North Coast TeleMed Network is unique in that its telemedicine hub is based at the Telehealth and Visiting Specialist Center (TVSC) in Eureka, a small rural town in Humboldt County. Made possible through funding from USDA Rural Utilities Services, and with support from private, state and county sources, TVSC serves as a hub offering a range of services. Specialty medical care provided at TVSC includes diabetes care and education, HIV/AIDS care, osteopathic medicine, orthopedics, pulmonology, podiatry, gynecology, dermatology, endocrinology, psychiatry, pediatrics, and infectious disease clinics. Videoconferencing capabilities also allow it to serve as a center for distance learning and community meetings in this rural area.

- The Indian Health Service (IHS) network has been providing telemedicine services since 2001. Currently, some of the network's clinics provide telemedicine services in multiple specialties, including endocrinology, retinal imaging, psychiatry, rheumatology, dermatology and other specialties. Through the FCC pilot project, new strategies will be developed for expanding services to include acute care and preventive services. This would give clinic staff expanded options for improving care in the community by bringing in specialists not otherwise available. Areas of priority include: endocrinology services for diabetics with the intent to decrease Hemoglobin A1Cs'; retinal screening for diabetic patients; home health services to check blood pressure, weight, temperature, oxygen saturation for elderly or people who have been recently hospitalized; obesity prevention services including nutrition education, emotional support from licensed clinical social psychologists, psychiatrists and exercise physiologists; and heart disease programs such as the Coronary Heart Improvement Program (CHIP), which could be broadcast out to multiple sites.

Governmental Partners:

The Office of the Governor is strongly supportive of this application and the need to create a state-of-the-art network. Multiple stage agencies and offices have been involved in the development of the project and will continue to serve as ongoing partners.

California Health & Human Services Agency (CHHSA) has a lead role in implementing Governor Arnold Schwarzenegger's health reform proposal which calls for accessible, efficient and affordable health care. CHHSA administers state and federal programs for health care, social services, public assistance and rehabilitation. Responsibility for administering the state's major programs, which provide direct services to millions of Californians, is divided among the Agency's 11 departments and one board. CHHSA partners

with public and private industry and consumers to pursue avenues of accessibility, affordability, and quality of health care for all Californians. These goals are supported in the recent Executive Orders S-12 *(*State policy agenda for health information technology) and S-23 (Expanding broadband access and usage in California).

- The Office of Statewide Health Planning and Development (OSHPD) is a department of CHHSA and promotes health care accessibility through leadership in analyzing California's health care infrastructure, promoting a diverse and competent health care workforce, providing information about health care outcomes, assuring the safety of hospitals and health care facilities, insuring loans to encourage the development of health care facilities, and facilitating development of sustained capacity for communities to address local health issues.

California Business, Transportation and Housing Agency (BTH) oversees the activities of 13 departments consisting of more than 42,000 employees, a budget of more than $11 billion, plus several economic development programs and commissions. Its operations address financial services, transportation, affordable housing, real estate, managed health care plans and public safety. BTH has been designated by Governor Arnold Schwarzenegger to lead the state's broadband initiatives. All three aspects of its core infrastructure responsibilities – business, transportation, and housing – are central to expanding access and usage of broadband technologies. As the infrastructure agency, BTH personnel have devoted significant time and resources to furthering broadband deployment and access in California. BTH staff have been responsible for the design and implementation of a variety of broadband initiatives, involving private and public stakeholders.

The Secretaries of the Health and Human Services Agency and the Business, Transportation and Housing Agency have been directed by Governor Arnold Schwarzenegger to work with public and private sector stakeholders to develop a sustainable business model for an eHealth network connecting rural health clinics to medical centers throughout the state using telemedicine and other technology.

- The California Department of Managed Health Care (DMHC) is a department of BTH and works to ensure a more affordable and accountable managed care delivery system that promotes healthier Californians. DMHC regulates the care provided to more than 21 million Californians receiving coverage from 47 full service and 54 specialized health plans. As a first-in-the-nation consumer rights organization, DMHC helps California consumers resolve problems with their health plans. As the largest regulator of managed care in the nation, DMHC ensures the solvency of health plans, which comprise nearly 5% of the state's Gross Domestic Product. DMHC works aggressively to ensure that the value of California's managed care system continues to offer among the lowest cost premiums in the nation.

  As a condition of the approval of a merger between United Health Group and PacifiCare of California, DMHC secured a commitment of $250 million in community benefits for California consumers. These funds will be used to improve health care information technology infrastructure in rural and underserved communities, improve medical education in key areas of the state, and provide other investments in projects designed to serve low income populations.

The California Office of Emergency Services (OES) delivers extensive emergency management training programs to every public employee in California who may be tasked with responsibilities in a disaster. OES works closely with partners in the California Health and Human Services Agency to assist their coordination

of state-level preparedness for health-related emergencies in support of the health care industry and all California stakeholders.

The California Public Utilities Commission (CPUC) is a constitutionally independent California agency charged with regulating privately owned telecommunications, electric, natural gas, water, railroad, rail transit, and passenger transportation companies, and issuing statewide video franchises. The CPUC is responsible for ensuring that customers have safe, reliable utility service at reasonable rates, protecting against fraud, and promoting the health of California's economy.

The CPUC has committed significant resources to improve broadband services throughout the state, particularly focusing on unserved and underserved areas. Its creation of the California Emerging Technology Fund in 2005, its many policy decisions encouraging the development of broadband facilities in California, its reports on the state of broadband in California and its participation on the Governor's Broadband Task Force are among many examples of the CPUC's commitment to broadband.

The CPUC has strongly supported the California Telehealth Network project by providing staff and resources to assist with this application. Should this application be granted, the CPUC will lend support in the following areas: advising as to the FCC and Universal Service Administrative Company (USAC) process and procedures related to the pilot project; coordination with the California Teleconnect Fund, including assistance in identifying specific needs of rural health providers in California; provision of publicly available data regarding current telecommunication provider networks; and advice regarding telecommunication law and policy.

- The California Emerging Technology Fund (CETF) is a non-profit public-benefit corporation established pursuant to orders from the California Public Utilities Commission in approving the mergers of SBC-AT&T and Verizon-MCI. The companies are required to contribute $60 million to CETF over five years. The mission of CETF is to provide statewide leadership to minimize the "digital divide" by accelerating the deployment of broadband and other advanced communication services to underserved communities and populations throughout California. CETF will contribute $3.6 million towards the 15% required match for the FCC Rural Health Care Pilot Project and will serve on the advisory board. CETF will also help engage and mobilize community-based groups, civic leadership organizations, charitable foundations, and the private sector to support the development of the telemedicine system.

The California Institute for Telecommunications and Information Technology (Cal IT2) helps to ensure that California maintains its leadership in the rapidly changing telecommunications and information technology marketplace. Created by UC campuses at San Diego and Irvine, Cal IT2 and its faculty, students, and researchers partner with leading California telecommunications, computer, software, and applications companies to conduct research on the scientific and technological components needed to expand and improve the Internet. Institute applications researchers are conducting studies in "living laboratories" to investigate how the future Internet will accelerate advances in environmental science, health care, and other fields.

Other Organizations:

The California Hospital Association (CHA) represents nearly 500 hospitals and health systems. CHA provides member hospitals with state and federal representation and advocacy in the legislative and

regulatory arenas, with its agenda designed to improve access to quality, cost-effective health care services.

- The California Health Foundation and Trust (CHFT) is a 501(c) (3) non-profit corporation established in 1956 to sponsor and support health care access, research and education. CHFT is affiliated with the California Hospital Association. Both CHFT, which houses the California Telemedicine and eHealth Center (CTEC) and CHA are committed to continuing and expanding the telemedicine and eHealth programs serving rural underserved populations. CHA, through its Rural Healthcare Center, facilitates the active inclusion, participation and contribution of California's rural and underserved hospitals in the continued development and expansion of a statewide network for telemedicine and eHealth activities.

- The California Telemedicine & eHealth Center (CTEC) is dedicated to improving health care for underserved communities through the use of innovative technologies. Funded through grants from The California Endowment, the California HealthCare Foundation, Blue Shield of California Foundation, and the Office for the Advancement of Telehealth/HRSA, CTEC has supported a variety of eHealth programs and networks statewide and maintains a resource center that provides training and technical assistance to promote eHealth capacity and competence among providers. Since its inception in 1997, CTEC has facilitated the growth of telemedicine and eHealth in California by working collaboratively with hospitals, clinics, government agencies, legislative policy makers, and other stakeholders. In support of this application, CTEC brings in-depth knowledge of the current status of telemedicine and eHealth activities in rural California, and operational and technical expertise on best practices for establishing and sustaining networks.

The California State Rural Health Association (CSRHA) is a non-profit, nonpartisan, grassroots organization that works to improve the health of rural Californians and the quality and accessibility of the heath care they receive. CSRHA brings together health care providers, consumers, educators, researchers, public health and economic development agencies and others to work on issues related to preserving and enhancing the health of rural California. CSRHA will participate in the FCC Rural Health Pilot Project by continuing to provide a voice for rural communities and health care providers at the statewide level. The association is committed to serving the project not only as a resource for rural information and access to rural providers, but as a partner dedicated to advancing the health status of rural residents.

If funded, CSRHA plans to remain engaged in the Rural Health Pilot Project network planning and implementation process. CSRHA will continue to facilitate discussions with a wider variety of rural health stakeholders through the association's Rural Technology Advisory Committee (RTAC). These ongoing discussions will provide a natural venue for communication between the project managing agency (UC) and beneficiaries of the project (i.e., rural clinics, hospitals and health networks).

The California Primary Care Association (CPCA) represents more than 600 not-for-profit community clinics and health centers in California who provide comprehensive health care services to primarily low income, uninsured and underserved Californians. CPCA leads and coordinates efforts of individual clinics and networks of clinics (consortia) to address access barriers through tailored programs and delivery systems that offer culturally appropriate, high quality, primary and preventive health services. CPCA recognizes that telemedicine, particularly in California's rural areas, is a key delivery system that must be expanded and supported to provide timely and cost-effective care to rural, underserved California residents.

CPCA also recognizes the importance of advancing the integration of health information technology (HIT) in community clinics and health centers, and has taken a leadership role to ensure that safety net providers have access to the resources needed to participate in HIT and telehealth. CPCA also works with clinics to share information about health information products and services, and to provide opportunities to share best practices. As a participant in the California Telehealth Network, CPCA will represent the interests of community clinics and health centers, and provide policy and advocacy leadership to expand implementation of telemedicine and connectivity for rural providers through public and private funding to leverage the efforts undertaken through this project.

Work Plan

An incremental deployment of telecommunications to 319 health care providers is expected over three years; however, the scalable design will enable more health care providers to connect to the network thereafter. We understand that although the FCC pilot period is two years in length, our partner organizations are working toward a longer term vision of a ubiquitous statewide network, for which the FCC pilot would be an initial building block.

	YEAR ONE	YEAR TWO	YEAR THREE
Organizational Infrastructure			
Convene Program Advisory Board	X	X	X
Convene working groups	X	X	X
Establish payment/reimbursement process	X		
Study/Planning Phase			
Perform network design studies and create vendor RFIs	X		
Hire technical site assessment team	X		
Perform assessment of sites including network, technical, clinical and financial assessment	X	X	X
Complete form 465 for Health Care Providers (HCP)	X	X	X
Develop study phase report/review, including business plan, site implementation plan, technical specifications	X		
Develop sustainability plan	X	X	X
Network Design/Specification Phase			
Establish central network operations center for monitoring	X		
Develop security services	X	X	X
Develop specifications and RFP	X	X	X
Evaluate proposals and select vendors	X	X	X
Develop detailed project plan, including implementation schedule	X		
Coordinate interface to NLR and	X	X	X

Internet2			
Prepare training materials	X	X	X
Update network design	X	X	X
Implementation Phase			
Deliver pre-deployment training	X	X	X
Coordinate Forms 466 and 467 with USAC	X	X	X
Deployment	X	X	X
Develop deployment phase reports/reviews	X	X	X
Deploy redundant/emergency communications modalities	X	X	X
Provide site technical support and maintenance	X	X	X
Provide distance education planning/testing	X	X	X
FCC Reporting			
File annual report on project with FCC and all stakeholders	X	X	X

Budget

A preliminary estimate of the costs associated with management of the project totals $975,000 for Year One, and $1.25 million for Year Two. These costs include staff for management, administrative, technical, financial and training components, as well as the expenses of convening various advisory groups, videoconferencing and bridge support, travel and supplies. Funding for management of the project will be sought from various public and private sources.

10. Coordination of Telemedicine Programs

California is committed to increasing the availability and utilization of telemedicine to benefit patients and improve the quality of life for the state's diverse population. A large degree of coordination will be required over the course of the pilot to connect 319 California health care sites, academic centers of excellence, for-profit health care providers, and other state and national resources. This coordination will be accomplished through the active management of the California Telehealth Network by the University of California. Leveraging existing resources, a wide array of partners, including: state agencies, public and private health care providers, health-related associations, and many other stakeholders, are committed to working with UC to successfully create this new statewide network.

A proposed Program Advisory Board will be instrumental in assisting UC's Office of the President and the UC Davis Health System in planning and managing the activities of the network. UCDHS, serving as the lead technical entity for the network, will coordinate with telecommunications providers, existing regional telemedicine networks and new health care provider sites. Additionally, UCDHS' extensive experience in developing telemedicine programs will help them coordinate network activities related to the delivery of telemedicine services between medical specialists and rural providers. The first phase of the pilot will emphasize planning and will build upon the work already undertaken to ensure that all of the necessary structures and elements are in place to assure that this will be a well-coordinated statewide effort.

Please see Section 2 (Goals and Objectives), Section 8 (Previous Experience) and Section 9 (Project Management Plan), for further details regarding the network design; provision of technical assistance to network participants; previous experience in developing and managing telemedicine programs; management structure; participating partners; and the proposed program advisory board.

11. Sustainability Plan

This section describes the University's thoughts to date about how best to approach sustainability of the California Telehealth Network (CTN). A detailed sustainability plan will be developed during the planning phase. Key elements of the plan will include:

- Creation of a business model and financial plans to secure and efficiently leverage diverse sources of funding and integration of for-profit providers;
- Performance of needs assessments to ensure service offerings meet stakeholder needs;
- Development of scalable network architecture, infrastructure and technology roadmaps to ensure the network meets projected needs and future expansion including integration and interoperability with other provider networks, home telehealth, and integration of new technologies supporting mobility; and
- Marketing activities to include additional participants.

As described in other sections of this application, the CTN will complement two other actions taken by the state that are advancing telemedicine throughout California. The first of these was establishment of a non-profit corporation, the California Emerging Technology Fund (CETF), by the California Public Utilities Commission. The purpose of the CETF is to achieve ubiquitous access to broadband and advanced services in California, particularly in underserved communities, through the use of emerging technologies by 2010. The second of the state's actions was the establishment of the California Broadband Task Force (CBTF) by Governor Schwarzenegger through Executive Order S-23-06 (see Appendix D). The CBTF is identifying barriers to broadband access and opportunities for increased broadband adoption.

The establishment of the California Telehealth Network is in keeping with the state policy outlined in Executive Order S-12-06, in which Governor Schwarzenegger directed the Secretaries of the Health and Human Services Agency and the Business, Transportation and Housing Agency, the Director of the Department of Managed Health Care and the State Chief Information Officer to work with public and private sector stakeholders to develop a sustainable business model for an eHealth network connecting rural health clinics to medical centers throughout the state using telemedicine and other technology. Recognizing that additional funds are vital to sustaining the network that the FCC funds would help launch, the stakeholders will work to develop a sustainable network that will attract additional investors to leverage their own funds into this effort. Other potential funders interested in this effort include the United Healthcare Charitable Commitment and the California Partnership for the San Joaquin Valley. Private funders such as the California HealthCare Foundation will also be approached. Each of the investors will be able to leverage their funds within the scope of their respective organizations, as we collectively work to build and sustain the California Telehealth Network.

While the FCC funding would provide the initial investment needed for increased connectivity for rural health care providers, additional funding is required to sustain the provision of telemedicine services. Further investment will be required in areas including: telemedicine equipment and maintenance; technical support to identify and install appropriate telecommunications equipment; and training that prepares providers not currently using telemedicine for entry into the network.

The initial set of public and private sector investors and their investments are described below.

	Year 1	Year 2	Year 3
Proposition 1D*	TBD	TBD	TBD
San Joaquin Valley eHealth Network	$ 150,000	$ 75,000	TBD
UC Merced and Riverside – DMHC	$ 5,000,000	$ 5,000,000	TBD
United Healthcare Charitable Commitment	Pending	Pending	Pending
Centers for Medicare and Medicaid Services Pilot Project	TBD	TBD	TBD

* Possible equipment purchases through "~community investment fund"

FCC Rural Health Care Pilot Program Investors

California Emerging Technology Fund. As part of its mission to support telemedicine statewide, the CETF will commit at least $3.8 million to support the California Telehealth Network project. This will be used to fund most of the fifteen percent of the budget of the pilot program required as a cash match by the FCC.

Proposition 1D. $200 million in bond funding approved in November 2006 to support infrastructure needs to increase class size in UC medical schools and to expand telemedicine programs throughout the state. This includes new resources for facilities and state-of-the-art equipment, some of which may be placed in rural health facilities in connection with expanded telemedicine programs and UC medical education efforts.

United Healthcare Charitable Commitment. UnitedHealth and PacifiCare of California agreed as a condition of the approval of their merger in California to a contribution of $50 million to benefit California health care consumers. Of this initial $50 million commitment, approximately $37.5 million remains unencumbered. The agreements executed between United Health, PacifiCare, and the California Department of Insurance and the Department of Managed Health Care specified the uses of these funds as follows:

- Subsidies and outreach for individuals who are eligible for both Medicare and Medi-Cal (dual eligibles) who are unable to pay premiums for Medicare managed care products after the start up of Medicare Part D, and other subsidies and outreach to support other programs that serve low income populations;
- Technology improvements for safety net providers;
- Medical education programs in underserved areas that will provide expanded access and service to traditionally underserved communities in California;
- Population-based preventive health strategies;

- Further support for the coordinated care initiatives; and

- Cash or in-kind contributions to help establish and support health care information technology initiatives designed to improve health care delivery.

A request is in place to both the California Department of Insurance and the United Healthcare Charitable Commitment to support allocation of $3 to $9 million of the charitable commitment to be used over a period of three years for telemedicine and/or telehealth projects that will leverage the California Telehealth Network. Such an investment falls directly within the intent of the agreements stipulated at the time of the merger approval. Such an investment builds upon recent efforts within the Governor's Office, given that it would: support the broadband action identified in the Health Care Reform Proposal and provide experience to the public and private sector stakeholders that will be involved in developing a sustainable business model for an eHealth network connecting rural health clinics to medical centers throughout the state using telemedicine and other technology.

California Partnership for the San Joaquin Valley. Launched by an Executive Order from Governor Schwarzenegger in June 2005 (renewed in November 2006), the California Partnership for the San Joaquin Valley is an unprecedented public-private partnership focused on improving economic vitality and quality of life for the Valley's 3.4 million residents. The Partnership is addressing the challenges of the region by implementing measurable actions on six major initiatives to help the San Joaquin Valley emerge as *California's 21st Century Opportunity*.

As part of the Partnership, four health clinics are to be established (all connected electronically) in the Central Valley, by the University of California, Merced. Money to start the project comes from a $225,000 seed grant from the Partnership. The four health centers will connect into a network hub at UC Merced, and each will be equipped to provide telemedicine services via videoconferencing and by using specialized equipment. The centers also will be used to provide training for physicians, medical students and allied health professionals throughout the region. A number of organizations have expressed interest in partnering to develop the network, including UC Davis; UCSF - Fresno; Central Valley Health Network; California Emerging Technology Fund; California Telemedicine and eHealth Center; Great Valley Center; and United Cerebral Palsy of San Joaquin, Calaveras and Amador Counties. Locations for the clinics have not yet been announced.

Proposed Centers for Medicare and Medicaid Services (CMS) Grant to Fund Rural Health Care Providers. The Rural Health Care CMS Pilot Project is a two-year program that would integrate with, and leverage the proposed California Telehealth Network as well as other HIT efforts. The role of the CMS project will be to stimulate adoption of eHealth technologies and systems through providing funding in the first two years for telemedicine equipment and other related items that are not covered by the FCC Grant and the California Emerging Technology Fund (CETF) partnership. Obtaining Year 1 and 2 funding for the Rural Health Care Pilot Program will guarantee the ability of the California Telehealth Network to build a secure foundation with rural Medi-Cal providers by providing much needed equipment, training and support. As a result, fewer rural Medi-Cal providers will expend scarce resources to purchase technology equipment for telemedicine, or be unable to participate in the Telehealth Network due to lack of funding for equipment or training.

Additional investment is required in areas including: telemedicine equipment and maintenance; technical

support to identify and install appropriate telecommunications equipment; and training that prepares providers not currently using telemedicine for entry into the network. With the basic needs for telemedicine connectivity funded, future investments will be more diversified and allow the sustainable investment plan and strategy time to build.

California Telehealth Network Components and Ancillary Activities for Which Non-FCC Funding Will Be Sought. The following table describes activities for which non-FCC funding will be sought.

Component/Activity	Description
Telemedicine equipment and maintenance	Costs associated with the purchase or lease, upgrading and maintenance of telemedicine equipment such as videoconferencing equipment, diagnostic equipment and other devices used in the practice of telemedicine.
Training health care providers: Increase the number of specialists to meet the demand for telemedicine services in underserved areas	The University of California's new Programs In Medical Education (PRIME) focus on specialized training of physicians who are committed to meeting the needs of various rural and urban underserved populations. Each campus' PRIME program contains specific training in telemedicine.
Operational costs of managing the California Telehealth Network	Funding will be needed for management and staffing of the administrative, technical, financial and training components of the CTN, as well as the expenses of convening various advisory groups, videoconferencing and bridge support, travel and supplies.
Operational costs of regional telemedicine networks	Funding will be needed for the administration of the regional telemedicine networks, including the Indian Health Services, which are being upgraded and interconnected as the CTN grows.

The establishment of the CTN will improve access to quality health services afforded by telemedicine, facilitate cost savings associated with the development of telemedicine and increased use of electronic health record (EHR) systems and new health information technologies. This work is fundamentally important to broader HIT efforts, creation of an advanced technology infrastructure, and development of a sustainable eHealth network.

Appendices

A. Network Design (Detail)

B. Required Waivers

C. Governor's Executive Order S-12-06

D. Governor's Executive Order S-23-06

E. List of UC Specialty Services

F. Acronym List

G. Letters of Support/Commitment
   1. University of California, Office of the President
   2. UC Davis, Office of the Chancellor
   3. UC Davis Health System
   4. California Public Utilities Commission
   5. California Emerging Technology Fund
   6. California Partnership for the San Joaquin Valley
   7. Northern Sierra Rural Health Network
   8. Southern Sierra Telehealth Network
   9. Central Valley Health Network
   10. Open Door Community Health Centers
   11. Community Clinics Health Network
   12. Indian Health Service
   13. Great Valley Center
   14. California Institute for Telecommunications and Information Technology
   15. California Hospital Association
   16. California Telemedicine & eHealth Center
   17. California Primary Care Association
   18. California State Rural Health Association
   19. University of California, Berkeley, CITRIS

Appendix A

Network Design (Detail)

Appendix A – Proposed Network Design

This appendix includes a detailed description of the proposed California Telehealth Network architecture. The design is expected to accommodate 319 health care sites throughout the state, and incorporates provisions for accommodation of alternative technical designs that may offer cost savings or other advantages on a regional basis. The California Telehealth Network architecture will support a comprehensive set of design objectives that are described in this section.

The California Telehealth Network will be composed of a high performance network backbone that interconnects with separate regional hub infrastructure. The regional hubs will serve as "aggregation points" for collecting multiple circuit connections distributed to individual clinics, physicians' offices, and other sites. The proposed network will include rural health sites connected to regional hub infrastructure and to the nationwide backbone via "clouds" in which peer-to-peer telecommunication can take place twenty-four hours a day, seven days a week.

Backbone Services

The backbone will be developed in ways that:

(1) Span the largest extent of the state possible. The backbone will be composed of multiple routing centers interconnected via dedicated fiber links or high capacity common carrier circuits after an open bid process;

(2) Provide regional "meet points" or "points of presence (POP's)" where regional hub infrastructure will connect. POP's will be geographically distributed to provide path diversity and minimize mileage dependent circuit fees where applicable;

(3) Provide high quality, dedicated access to key regional providers of telehealth services, including: UC campuses and medical centers; California State University campuses; California Community College Campuses; Stanford, Loma Linda University; University of Southern California; and other private California universities; and

(4) Provide high speed access to other statewide and national network infrastructures, including: CalREN2 National LambdaRail; and Internet2.

Regional Hub Infrastructure

Distribution of network connections into remote areas will occur via the regional hub infrastructure. The type of regional hub infrastructure employed will be based upon an evaluation and optimization of multiple technical, logistical and financial considerations. As part of the decision-making process a variety of questions will be asked, including those such as:

- What is the aggregate cost of establishing a regional hub infrastructure, including circuit costs, facility costs, and personnel costs?

- Which technical alternatives will provide the maximum reliability? Which will support the required advanced feature set, including end-to-end Quality of Service (QOS) into those participant sites where telemedicine support will be important?

- Are there regional hub infrastructure sites available in locations where fiber extension of the network backbone is possible or economically practical?

- Which options are most likely to be implemented in a timely enough fashion that significant operational experience can be gained during the first two-year period?

Primary and Alternative Regional Hub Infrastructure Designs. California Telehealth Network regional hub infrastructure design will include a primary design, together with the potential for alternative compatible designs within specific regions of the state where (for logistical, financial or technical reasons) the primary design might not be optimal. The primary design is proposed to offer an innovative coordination of a Multi-Protocol Label Switching (MPLS)-routed mesh of virtual regional hubs, incorporating regional Incumbent Local Exchange Carrier (ILEC) or Competitive Local Exchange Carrier (CLEC) facilities interconnecting. The resulting "cloud" will converge at a common meet point at multiple convenient POP facilities of the backbone provider. Individual regional sites will connect to their local ILEC via T1 or other supported circuit modality. Interconnection of the individual ILEC circuits to the provider will be provided via PVC's on the existing interexchange carrier trunking facilities (or other backhaul facilities) between the ILEC and the nearest provider's POP. Such an arrangement will provide the broadest possible statewide availability of virtual regional hub connect points, while avoiding the cost and delays of installing and provisioning a dedicated physical infrastructure.

Virtual Regional Hubs. Virtual regional hubs will be provided by the telecommunications companies ("telcos"). Such virtual regional hubs are designated as "virtual" because there is no actual physical hub site required. Alternatively, the virtual regional hub could be a collection of telco circuits, together with specialized routing and switching software and hardware located at central offices that together operate as an efficient, effective virtual regional hub.

All vendors provide SNMP network management support, permitting integration of their real-time network monitoring data into the project's proposed Centralized Network Monitoring Facility. All major vendors provide the required security features through Virtual Private Network (VPN) circuits. These services may be transparently extended to external networks via Internet routed security protocols, such as SSL, L2TP and IPSec. All vendors support a broad range of IP (public and private) addressing paradigms. A wide spectrum of bandwidth capabilities is available, ranging from fractional T1 through OC48, depending upon location, needs and cost considerations.

The proposed network will interoperate with commonly used EGRP and IGRP routing protocols used on regional and national backbone networks (e.g., eBGP), as well as those utilized on private and local area routed networks (e.g., OSPF). Consultative services will be available to assist participants in appropriately modifying static routing protocols. In areas not serviced by a telco providing virtual regional hub services, it is possible to provide "bridging circuits" from the regional telco to the nearest virtual regional hub provider with no loss of QOS, but at an additional cost.

- Regional Hubs – Innovative Designs. The network architecture is designed to provide a high quality infrastructure that spans the largest possible geographic extent of the state and the largest possible

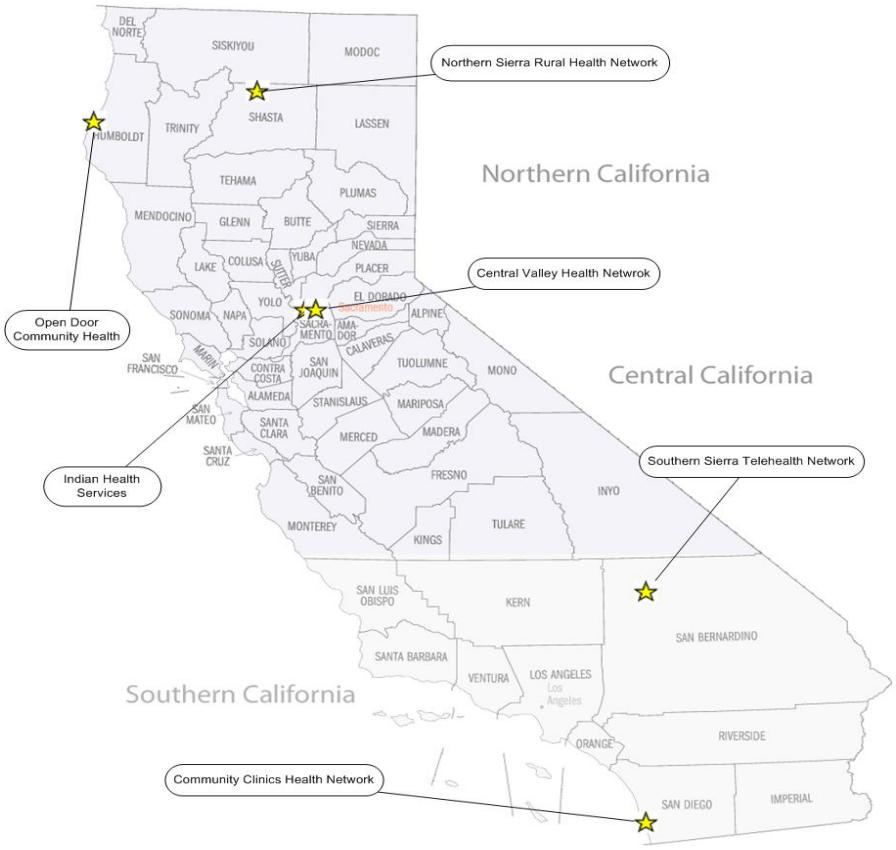
group of sites located in rural areas according to the RUCA rural designation. Based upon an assessment of the: distribution of ILEC/CLEC facilities; availability of interexchange carrier trunking and other backhaul facilities; and distribution of POP's and circuit capacities of potential backbone providers, it is estimated that the architecture can encompass at least 90% of the state. During the formal design specification phase and the RFP-based vendor selection phase, vendors will be encouraged to propose alternative regional solutions that are compatible with the overall network design. Multiple awards for regional hub infrastructure may result in order to provide the highest possible quality at the lowest infrastructure costs for the broadest possible population.

Providers of alternative regional hub infrastructure services will be held to high standards for quality and interoperability with the California Telehealth Network. These standards include, but are not limited to: local support for physical facilities; and meeting technical requirements for integration of the regional hub infrastructure into the backbone. These might include: adherence to IP addressing plan standards and assignments; preservation of QOS designation and provisioning for preferential priority in/out of the network backbone; meeting Network Address Translation requirements; providing firewall services consistent with the California Telehealth Network standards, either at the regional hub infrastructure level, or at each participant site; and others.

Existing Regional Telehealth Networks Serving as Regional Hubs. Six existing regional telehealth networks (E-RTN) will initially participate in the pilot. To varying extents, these networks provide comprehensive network and telehealth-related services to regional sites. The California Telehealth Network will leverage and upgrade existing infrastructure and expertise to further expand in their principal coverage areas. Services to existing network customers will be enhanced through connection to the California Telehealth Network, National LambdaRail, and Internet2. Nearly all anticipated services available to sites directly connected to the virtual regional hubs will be available to sites connected through an E-RTN.

One option for integrating each E-RTN into virtual regional hubs would be to install (or upgrade) appropriate local loop trunking circuits from their respective hub sites, through their ILEC's, that will extend as necessary to the virtual regional hub's network provider's nearest POP. Trunking circuit bandwidth requirements will be assessed for each E-RTN and provisioned at a level sufficient to meet the overall California Telehealth Network QOS requirements for each participant. It is anticipated that those bandwidth requirements will initially range from T1 service for smaller E-RTN's, through full DS3 service for larger E-RTN's. The intrinsically extensible nature of the California Telehealth Network's design is intended to enable bandwidth and circuit upgrades on a regional or per-site basis without needing to change regional network topology or capacity. As bandwidth and utilization increases, it will likely be necessary to uplift the trunking capacity at the meet point between the virtual regional hubs and the backbone network. This will simply be a matter of re-provisioning the circuit and/or upgrade of the border routers and will require no other network modifications.

The E-RTN's will serve as an effective resource for other newly-connected sites. It is expected that the E-RTN technical support staff will serve in a consultative role to new sites and assist with problem solving. Because the California Telehealth Network is a logically "flat" network, the newly-connected sites may develop collaborative relationships with E-RTN's that are independent of centralized California Telehealth Network intervention and (from a network perspective) can operate as if they were a full participant. Although access to the full range of E-RTN services might require mutual E-RTN firewall tunneling provisions, full network integration would otherwise be a straightforward process. Existing E-RTNs are shown below.



Technical Specifications. Subject to the initial study phase, the network design may encompass the following technical specifications:

(1) IP-based addressing scheme: During the initial phases of network development, the IP addressing paradigm would employ IPv4 addressing in order to facilitate assimilation of E-RTNs and provide the broadest possible opportunity for vendors to compete. For planning purposes, however, particular consideration will be given to the issue of compatibility with the emerging IPv6 standards. Because the MPLS routing protocol essentially operates at "ISO-OSI Level 2.5", this issue is not entirely relevant to routing services within the network of virtual regional hubs. However, because the network will be peering with external networks, it will be important to ensure that vendors can provide an efficient and cost-effective capability to upgrade to IPv6 in keeping with anticipated industry-wide and governmental initiatives, and that new features intrinsic to IPv6 will be supported by CTN vendor participants. The RFP process will specifically address network requirements for IPv6 compatibility.

(2) Dynamic routing of sessions among all network members, external resources and the Internet: Each participant node will have assigned either a fully routable public IP address, or where private IP addressing is employed, suitable gateways will provide interoperable access to publicly addressed (Internet) locations.

(3) Isochronous circuits maximally employed, minimally in the network backbone: Network circuits will provide high quality video and audio support, free of jitter and dropouts – problems that are common with many networks, particularly those employing standard IP routed components. At the circuit level (OSI Level 1), links should provide isochronous service (e.g., ISDN, T1, ATM-CBR).

(4) Quality of Service (QOS) designation support, with persistence of QOS tagging across intercarrier exchanges: At the data link, network and transport levels (OSI Levels 2/3/4), the transport/routing protocols are anticipated to provide for end-to-end QOS designation. In the Wide Area Network arena, connections will likely need to traverse multiple common carriers and client networks as a means of preserving QOS designations.

(5) HIPPA-compliant security, employing encryption over non-secure links: The proposed network will provide HIPAA-compliant security capabilities. Common carrier circuits are designated by Health and Human Services to be "private circuits." They are considered secure and transmission of ePHI over them is considered HIPAA-compliant. Extension of carrier circuits into internal networks, or transmission via the Commodity Internet, is not secure. The California Telehealth Network will provide additional session-based security capabilities via a session-based encryption methodology or most conveniently by supporting circuit-based, encrypted VPN connections that would provide the desired level of security.

(6) Traffic engineering capability, supporting designation of bandwidth and logical traffic segmentation: The network will provide some means of traffic engineering -- the ability to modulate bandwidth allocated (and cost) either automatically or manually. Emerging network protocols such as MPLS provide such capabilities and are provided by some carriers.

(7) Bridging capabilities to integrate existing "legacy" connections (e.g., point-to-point, ISDN): Regional bridging facilities will be established for this purpose at locations throughout the network. The use of commercial bridging services may also be considered for regions where there are logistical and financial benefits. Several E-RTNs support ISDN bridging services. These will be integrated to provide bridging capabilities for new and existing participants.

(8) Comprehensive, ubiquitous, centralized network monitoring capability. Although geographically dispersed, the network will be accessible to centralized, real-time continuous monitoring. Because of the geographically dispersed nature of the network (potentially traversing multiple common carriers and numerous private network linkages), there is a potential for "balkanization" of support and monitoring among regional entities. Many years of experience supporting telemedicine at UCDHS has demonstrated that "fractured" support leads to inefficient, inconsistent, and unreliable services. Equipment and circuits will support a standards-based network monitoring and management protocol, such as SNMP.

(9) Device-Level Remote Monitoring: In addition to network circuit monitoring, proposed project centralized monitoring facilities will incrementally increase capability to remotely monitor customer device levels. Many manufacturers provide the necessary RFC 1155-compliant Management Information Bases (MIB's) that permit remote monitoring of device status via SNMP monitoring. In addition, TCP port level interrogation may be employed where network services can be unambiguously associated with particular TCP ports. The ability to enable such services will be dependent upon establishing the necessary tunneling provisions through customer Firewall/IDS facilities.

(10) Integration of the project with regional and national broadband networks, including Internet2 and National LambdaRail.

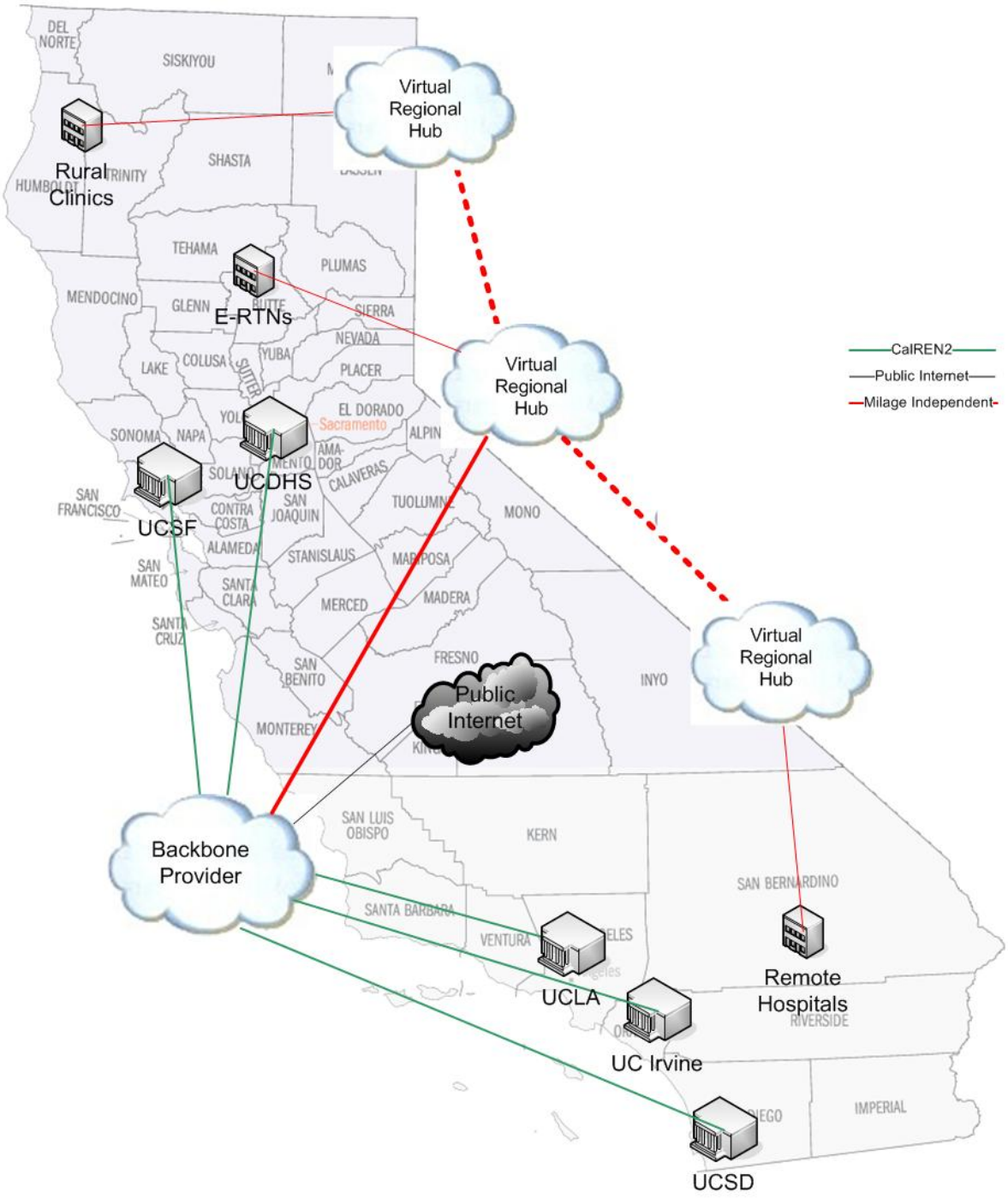
(11) Transparency: The interface between the California Telehealth Network and a client's internal network will be as transparent as possible. Most medium to large health care facilities already have established internal networks that support local activities. However, these networks are not routinely used to distribute telemedicine and other remote activities due to a variety of technical and other constraints, some of which relate to specialized remote circuit connection requirements. Access to all California Telehealth Network services should be conveniently available at all host network access points. It is inevitable that specialized California Telehealth Network hardware and software will be required to access certain remote services, such as teleconferencing. However, if specialized California Telehealth Network circuits need be extended into various locations within the client premises, the logistical constraints alone could seriously reduce usage, particularly for ad hoc encounters. The local host network should therefore be maximally integrated into the external network.

(12) Standards: Network hardware, software and communications protocols should be based upon broadly recognized standards. In particular, TCP/IP-based services, such as FTP, HTTP, and SMTP should be fully supported. Comprehensive support for H.323 videoonferencing protocols will be ubiquitously implemented.

(13) QOS Bridging and VLAN Integration: To provide end-to-end QOS, it is necessary to properly program the respective equipment that manages the interface between the virtual regional hubs and the network backbone. Various QOS flags that are used to identify a given data packet's priority are set slightly differently among vendors. During recent discussions with several network service providers, this question was discussed. In all cases, technical representatives indicated that establishing the necessary interconversions should be straightforward. These and related technical points regarding interoperability of QOS designations will be carefully defined and potential solutions will be tested and confirmed in a timely fashion prior to any deployment.

(14) Virtual Regional Hub - Backbone Integration: The MPLS virtual hub infrastructure internally employs a high capacity backbone supporting the MPLS routing protocol and providing peer-to-peer integration of each physical connection point into a logically "flat" network. In such a design, it is not necessary to connect the California Telehealth Network's backbone to the MPLS network of virtual regional hub at multiple points; a single high bandwidth connection will serve to provide high quality service to all segments of the MPLS network of virtual regional hubs. For the purposes of providing fail-over redundancy, it may be desirable to establish two interfaces, each at a geographically distinct location. Numerous geographically diverse "meet points" are available between all prospective virtual regional hub providers and backbone providers.

The following illustrates a hypothetical interconnection of rural participants using a virtual regional hub model:



Specific Virtual Regional Hub Model

This example "mini-network" (composed of fourteen actual rural Sites broadly geographically distributed throughout California) is intended to demonstrate cost and feasibility of a statewide implementation. The technical design may be extrapolated to encompass broader regions of the state and thus serves as an accurate example of the proposed statewide Specific-Virtual Regional Hub (S-VRH) architecture.

S-VRH Overview. The S-VRH is composed of a single VPN comprising the following:

(1) T1 local loop circuits that connect participant sites that reside within the Primary Carrier's (PC; viz, the Carrier that provides the integrated MPLS VPN) coverage area to the nearest PC Central Office (PC-CO).

(2) For sites that reside outside of the PC's Coverage Area, an alternative connection modality is employed using an Inter-Carrier Frame Relay circuit (or equivalent backhaul modality) between the Local Exchange Carrier (LEC) servicing the region encompassing the target site and the nearest PC-CO, plus a T1 local loop circuit between the Site and the LEC's closest CO (LEC-CO).

(3) Logical interconnection of the PC-CO's over the PC backbone infrastructure, resulting in a single VPN that operates identically to a collection of geographically distributed Regional Hubs that span a broad geographic domain.

(4) Routing over the S-VRH will be via the MPLS protocol and will support all the QOS and other traffic engineering capabilities described in the "Technical Specifications" section above.

(5) Connection of the S-VRH to the California Telehealth Network backbone via a 4xT1 connection at the Sacramento campus of UC Davis Medical Center. This site was chosen in lieu of a POP for an actual prospective backbone provider, primarily for the convenience of developing pricing. Connection to the actual network backbone provider can occur at any convenient POP location where the MPLS S-VRH provider and the backbone provider have mutual POP's (Sacramento, Sunnyvale, Los Angeles, San Diego are among the locations where most potential vendors have significant regional POP's).

High Level Design

(1) The S-VRH encompasses three widely distributed geographic regions of the state that historically have been underserved, including the North Coast (Eureka Area); North Central/Eastern (Plumas County, Lassen County, Colusa County, and Yuba County);and South Central (Southern California).

(2) The S-VRH design constitutes a "flat" network model. All Sites are equivalent and peer-to-peer communication is fully meshed; any site can interact with any other site with equivalent bandwidth and QOS provisions and priorities.

(3) The S-VRH constitutes a VPN with respect to other carrier traffic. The level of network security provided point-to-point meets or exceeds all federal and state requirements, including HIPAA and California State AB 1386 standards.

(4) The S-VRH connections are terminated into a single “meet point” with the backbone provider in Sacramento California, where peering connections are also made for UCDMC, UC Davis, CSU Sacramento, Community College Campuses, CalREN2 and Internet2.

(5) Physical connection between UCDMC and the S-VRH is through a 4xT1 connection, provisioned at 6.0MBPS. Bandwidth oversubscription will be employed as a means of providing cost-effective trunking between the backbone and the S-VRH.

(6) Each site connects to the S-VRH via a border router. In those cases where the site does not possess equipment suitable as a border router, several options are available, including use of a preconfigured border router. An example border router appropriate for the anticipated use is the CISCO ISR 2801 router with integral serial and Ethernet interfaces. A managed router service from the MPLS Network provider can also be obtained. This option has the added advantage of requiring little or no maintenance or problem intervention on the part of the site.

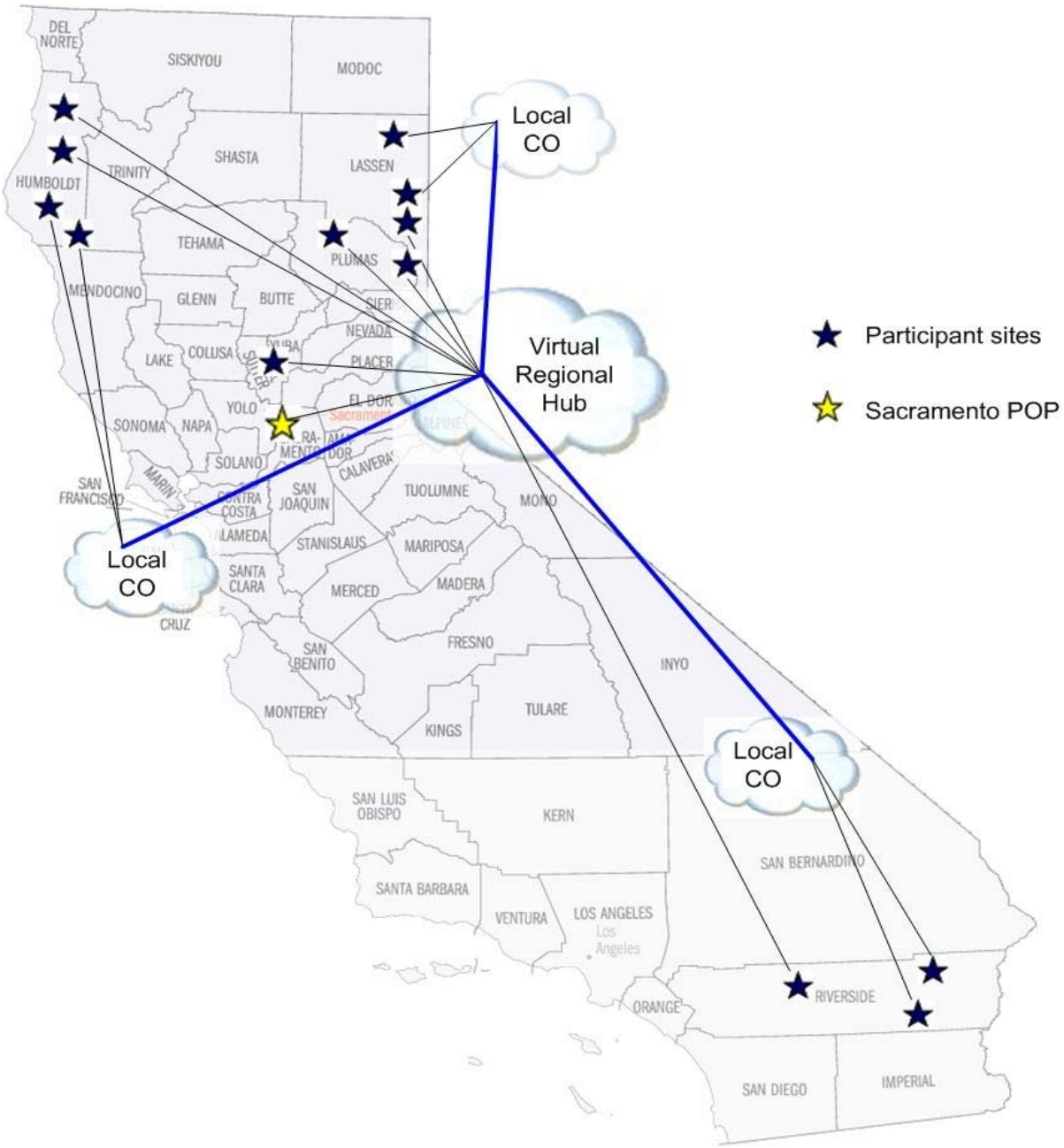
(7) IP addressing is currently under study and not specifically designated in the S-VRH example. One of two addressing schemes can be considered for the California Telehealth Network, either of which can be conveniently overlaid on the S-VRH design, these include: Internet Routable IP addressing (an Autonomous System Number and associated IP address obtained specifically for the California Telehealth Network. Alternatively, each site could individually statically address their S-VRH-accessible equipment. Private addressing may also be employed throughout the S-VRH with Network Address Translation (NAT) services provided at the backbone meet point, permitting transparent communication among S-VRH/California Telehealth Network participants, as well as to all external networks.

S-VRH Cost Model Design. The table below "cost pro-forma" itemizes the cost items for the S-VRH Network, including non-recurring installation costs as well as recurring costs. One possibility is that the California Telehealth Network will take advantage of various "flat rate" pricing agreements that are currently available for MPLS services, but vendor decisions will be made after our initial study phase and after an open bid process.

Cost Pro-forma

Regional Sites (Average)		
Non-recurring	Non-Recurring per Site	Non-Recurring Total 14 Sites
Installation-T1	$ 500.00	$ 7,000.00
Installation (QOS) T1	$ 100.00	$ 1,400.00
Installation (Managed Router) T1	$ 3,000.00	$ 42,000.00
Subtotal	*$ 3,600.00*	$ 50,400.00
Recurring	Yearly per site	Yearly 14 sites
MPLS (Monthly x12) T1	$ 7,548.78	$ 105,682.92
QOS (Monthly x12)	$ 955.68	$ 13,379.52
Manage Router Service (Monthly x12)	$ 4,020.00	$ 56,280.00
Subtotal	*$ 12,524.46*	*$ 175,342.44*
TOTAL COST	$ 16,124.46	$ 225,742.44
Shared Network Connection to Backbone		
Non-recurring		Non-Recurring Total
Installation-T1x4		$ 795.00
Installation (QOS) T1x4		$ 100.00
Installation (MRS) T1x4		$ 3,000.00
Subtotal		*$ 3,895.00*
Recurring		Yearly Total
MPLS (Monthly x12) T1x4 6.17 Mbps		$ 20,516.40
QOS (Monthly x12)		$ 3,273.00
Managed Router Service (Monthly x12)		$ 7,200.00
Subtotal		*$ 30,989.40*
TOTAL COST		$ 34,884.40
TOTAL NETWORK EXPENSE		$ 260,626.84

Description of the Mini–Network Participant Sites. Following is a narrative description of a few representative sites included in the S-VRH model. The figure below, "Geographic distribution of Mini-Network," illustrates the distribution of the fourteen sites used to develop this example.



Colusa Regional Medical Center is a small independent rural hospital located 1.5 hrs from Sacramento in a rural county with a total population of 19,000 people. Next to the hospital are two primary care clinics with limited onsite specialty services. Patients who require specialty services not available in town are referred to Colusa Regional Medical Center which provides telemedicine for specialty outpatient consultations. The hospital also uses remote fetal monitoring, pediatric emergency telemedicine and distance education via videoconferencing.

The closest city to Colusa is Marysville/Yuba City. Colusa Regional Medical Center's patient referral pattern is to one of two hospitals in Marysville/Yuba City for less critical patient needs and available specialty care or to UCDHS for more critical needs and specialists who are not available locally or in Marysville. The majority of inhabitants in Colusa are of Hispanic origin (50%) and a large number of migrant workers who work the vast number of crop fields reside in this county. The median income is low with 16% of residents falling below the federal poverty level. Only 63% of county's residents have obtained a high school diploma. A large number of uninsured and under-insured individuals reside in this area.

Banner Lassen Medical Center is one of the larger rural hospitals in the Sierra Nevada Region and is part of Banner Health (Corporate Headquarters in AZ). Banner Lassen Medical Center is located on the Nevada-California state line. The closest referral site is the University of Nevada Reno located nearly 2hrs away. Due to reimbursement challenges with California patients, patients are often transferred to hospitals within California. Banner Lassen Medical Center transfers to Redding, Chico, and Sacramento. Banner Lassen Medical Center uses telemedicine for pediatric emergency telemedicine and for distance education. Telecommunications for telemedicine are coordinated through the Northern Sierra Rural Health Network.

K'ima:w Medical Center is part of the Indian Health System. K'ima:w is located in Humboldt County and consults with UCDHS for outpatient specialty consultations. Psychiatry and endocrinology are two of the major telemedicine specialties for this site. K'ima:w consults with UCDHS and another hub site in the region.

Plumas District Hospital is a small rural hospital with two busy outpatient clinics on site. Located in a rural isolated region of Plumas county in the Sierra Nevada's, Plumas District Hospital is a 24 bed, not-for-profit hospital located in a HPSA. The Emergency Department treats approximately 3,600 patients per year. Transports are often difficult from this region given the 3 plus hour transport time by car and weather that often prevent air-transport. Plumas District Hospital uses telemedicine for outpatient specialty consultations, pediatric emergency medicine, remote fetal monitoring and distance education.

Clinicas de Salud Del Pueblo (Brawley) is part of a clinic network in Southern California. This clinic serves as a site where patients receive outpatient telemedicine consultations.

St. Josephs Hospital/Clinic is a larger rural hospital/clinic and is part of the St. Josephs Health System. The hospital uses telemedicine to connect to pediatric sexual assault examiners at UCDHS to assist with exams and evidence collection. They also participate in the Northern California Examiner's meetings through interactive videoconferencing. This is a three-hour regional meeting held on a monthly basis that combines case reviews and discussions, speakers and best practices to create pediatric sexual assault evidence collection standards across Northern California. Prior to videoconferencing this event, only examiners close to Sacramento and the Bay Area were able to participate on a regular basis.

Satellite

We anticipate taking a high availability network approach with path diversity to all sites being considered. This approach will allow for the combination of the best of satellite and terrestrial broadband technologies to form a network with two diverse paths for each network location.

During the network study phase, California proposes to explore the cost and feasibility of implementing a satellite component within the proposed California Telehealth Network. This satellite portion of the California Telehealth Network would overlay and complement the California Telehealth Network's terrestrial network. This is being considered to (1) provide redundancy to the terrestrial network in the event that the terrestrial network is disrupted, by terrorism, natural disasters such as earthquakes, fires and floods, or other events; (2) provide cost effective solutions for connecting health facilities in remote areas. In the wake of Hurricane Katrina, the FCC has recognized the importance of building resilient networks. Satellite networks, although taxed by extensive numbers of additional users, remained available and useable throughout the region affected by Hurricane Katrina[1]. FCC Chairman Martin stated, "If we learned anything from Hurricane Katrina, it is that we cannot rely solely on terrestrial communications".[2] Together, the California Telehealth Network coupled with a satellite system could form a mission critical telehealth network designed from the beginning for resilience and high availability.

More specifically, such a satellite component could add:

(1) Access continuity for sites requiring high availability and continuity of operations in the event of terrestrial network outage. Access continuity via satellite combines three critical attributes for a backup solution: path diversity, high speeds, and universal coverage.

(2) A cost-effective platform to deliver current and emerging bandwidth intensive broadcast and digital media, content delivery, and other services with ubiquitous coverage throughout California. Proposed applications include broadcast of production quality video of health care events through live video broadcasts or programs delivered for local on-demand playback, training, digital signage and etc. Digital signage in patient waiting areas can provide wellness and health educational content. In the event of a pandemic, this platform provides the transport infrastructure for dissemination of time critical information to all rural sites. This approach allows the possibility of delivering broadband content into sites at broadband speeds significantly higher than that of a T1 access line while also leaving the site's terrestrial access available for low latency applications.

(3) A scalable broadband platform to provide connectivity to rural sites where terrestrial broadband is not available or prohibitively expensive, thus including sites in the pilot that would otherwise be excluded. Satellite communication systems naturally aggregate user demand and allocate bandwidth based on utilization and need, providing an efficient way of including sites that have emerging telemedicine needs and low duty cycle traffic.

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[1] Before the Federal Communications Commission, In the Matter of Recommendations of the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks, EB Docket No. 06-119, Notice of Proposed Rulemaking Adopted June 16, 2006, Released June 19, 2006

[2] Federal Communications Commission Independent Panel Reviewing The Impact of Hurricane Katrina, Comment of the Satellite Industry Association Public Notice DA 06-57, January 27, 2006

(4) Disaster communications via fly-away and vehicle or trailer mounted terminals to quickly provide broadband connectivity for locations experiencing outages due to catastrophic events and reach back to health care providers for surge capacity in such an event.

(5) Primary features of a satellite component to the network that may be desirable include:

- Terminals: Capable of transmitting and receiving at broadband speeds. For example, transmitting at speeds up to 2 mbps and receiving at speeds up to 30mbps depending on application and space segment provisioning. Support for one or more high-speed 10/100BaseT Ethernet LAN interfaces.
- Advanced Bandwidth Management Capabilities: Ability to easily provision a variety of services.
- Advanced IP Features: Ability of terminals to support built-in router functions, potentially eliminating the need for an external router at satellite only connected sites.
- Data Acceleration: Satellite communication systems are based on satellites in geostationary orbits with one-way propagation delays of 250 milliseconds. Data acceleration features optimize performance of communication over satellite. Highly interactive and delay sensitive telemedicine applications should be carried via low latency terrestrial connections where and when available.
- Network Security: Will include built-in network security features.

Features of the proposed satellite component would include: access continuity for all rural hospitals; digital media platform for all sites; broadband (fill in where no broadband terrestrial access available); and disaster communications (5 transportable units). The satellite component of the network deployment plan would result in a total deployment of roughly 300 fixed terminals and 5 transportable terminals; the plan is proposed to be refined during the study phase.

If funded, UC will study the satellite proposal, issue an RFP for the system, and include the system as part of the final California Telehealth Network. Star and full mesh solutions will be considered as well as additional or alternative features to those listed above. The RFP will be directed at Managed Network Service Providers and vendors can provide: program management (and a single point of contact to the customer (UC) for the project; network implementation and deployment; fault management, including on-site statewide field maintenance; network operations and management; 24/7 customer (UC) support; billing; and real time status, trouble tickets and reports.

Appendix B

Required Waivers

Appendix B - Required Waivers

The Commission requested applicants to identify any rules that would need to be waived in order to implement the pilot program. California believes that two FCC rules, 47 C.F.R. §§54.609 and 54.611, are not consistent with the goals of the pilot program and would need to be waived in part to ensure funds are used for their intended purpose.

The FCC will need to amend or provide a waiver to all approved applicants with respect to 47 C.F.R. §54.609 so that the calculation of support is done consistent with FCC's Pilot Program Order. *Rural Health Care Support Mechanism*, WC Docket No. 02-60, *Order* (rel. Sep. 29, 2006); *Order on Reconsideration* (rel. Feb. 6, 2007).

The FCC will need to grant a waiver of 47 C.F.R. §54.611 to the extent it does not allow entities other than telecommunication carriers to receive federal universal service support. The pilot program outlined by the FCC contemplates planning and network design phases where entities that may not otherwise be eligible to receive Universal service support and do not have a SPIN numbers will be providing services and will need to receive support payments directly from USAC. California respectfully requests that USAC issue distinct, non-telecommunication, SPIN numbers to the lead applicant and the entities selected by the applicant to facilitate the processing of invoices, or that some other means be developed by USAC to facilitate such processing.

The FCC will need to grant a waiver of 47 C.F.R. §54.611 to allow USAC to pay selected vendor(s) monthly based on invoiced amounts rather than at the end of the USF contribution year. The lead applicant should not be required to act as a bank by paying the invoices monthly and receiving the credit back from the service provider(s) at the end of the year. Waiver of 47 C.F.R. § 54.611 is appropriate given the total size of the pilot project and the limited funds available to eligible HCPs and the lead applicant. Requiring the lead applicant to effectively procure or make a loan to pay for the services over the course of the year is unrealistic given the number of entities involved in the pilot program and the overall funding required. Waiver of section 54.611 is appropriate given the statutory construction of the section 254(h)(1)(A) of the Act entitles the carrier providing service to an offset, but does not mandate such an offset. Granting of the waiver would provide a great benefit to the pilot program participants, and would be easy to effectuate as the process contemplated is identical to the process used by USAC to administer the Schools and Libraries Support Mechanism.

Finally, to the extent 47 C.F.R. §54.601(b) is implicated by the participation of non-eligible entities, service providers and Health Care Providers will itemize the services for which the Health Care Providers plan to apply for discounts in their contracts/agreements with respect to the participation of non-public and for-profit private providers. California believes that such cost allocation will ensure that universal service support will "apply only to the portion of eligible services used by an eligible health care provider," 47 C.F.R. §54.601(b)(2), so that no waiver is necessary. Such an approach is also consistent with 47 C.F.R. §54.601(d).

Appendix C

Governor's Executive Order S-12-06

Appendix C - Governor's Executive Order S-12-06

State of California - Office of the Governor, Arnold Schwarzenegger
EXECUTIVE ORDER S-12-06

07/24/2006

WHEREAS all Californians should have all appropriate personal health information available to them, and also to their treating professionals in the medical office, hospital, pharmacy or emergency room; and

WHEREAS the aftermath of Hurricane Katrina demonstrated the need for timely, secure and accessible health information, particularly for our nation's most vulnerable – elderly, disabled, and low income populations – and the potentially life-threatening effects of that failure; and

WHEREAS the control of health care costs is key to a long-term strategy of reducing State expenditures and maintaining the ability of California's large and small employers to provide health care coverage to their employees; and

WHEREAS health information technology offers great promise as one means of enabling a goal of affordable, safe and accessible health care in California by: (1) ensuring health information is available at the point of care for all patients while protecting the confidentiality and privacy of the information; (2) improving safety, reducing medical errors and avoiding duplicative and unnecessary medical procedures; (3) improving coordination of care among hospitals, clinics, skilled nursing facilities, home care agencies, pharmacies, physicians and other health professionals; (4) providing consumers with their own health information to encourage greater participation in their health care decisions; and (5) ensuring access to specialists in a more timely manner for rural and underserved areas through technologies such as telemedicine; and

WHEREAS the federal Department of Health and Human Services estimates that, in addition to improving the quality of chronic care management and reducing errors, increasing health information technology could reduce duplicative care and lower health care administrative costs, achieving potential savings of $140 billion per year or close to 10% of total health spending in the United States; and

WHEREAS California has established a goal to achieve 100% electronic health data exchange among payers, health care providers, consumers of health care, researchers, and government agencies in the next 10 years; and

WHEREAS State leadership can promote and encourage legislative and regulatory actions, encourage coordinated efforts in the private health care sector, further public and private partnerships for the development of a statewide health information infrastructure, and maximize federal and regional financial participation to support the goal of adopting an eHealth information infrastructure; and

WHEREAS California and other states should collaborate and assume a leadership role nationally in the establishment of health information technology standards and implementation priorities; and
WHEREAS there are numerous different and conflicting standards in collecting and reporting personal

health information within the health care community that currently makes it impossible to properly share patient health care information.

NOW, THEREFORE, I, ARNOLD SCHWARZENEGGER, Governor of the State of California, by virtue of the power and authority vested in me by the Constitution and statutes of the State of California, do hereby issue this Order and direct as follows:

1. The Secretaries of the Health and Human Services Agency and Business, Transportation and Housing Agency and the State Chief Information Officer shall convene a California eHealth Action Forum to solicit input and participation in the development of a state policy agenda to improve health and health care through the rapid implementation of health information technology.

2. The Secretaries of the Health and Human Services Agency and the Business, Transportation and Housing Agency and the Director of the Department of Managed Health Care will devise financing strategies to allocate at least $200 million in investment funds and $40 million in grant monies previously secured from California health plans to benefit the diverse needs of rural communities, medical groups, and safety net providers, and shall also oversee the implementation of a mix of public/private financing alternatives to facilitate rapid adoption and sustainability of health information technology for hospitals, physician groups, physicians, and other health care providers.

3. The Secretaries of the Health and Human Services Agency and the Business, Transportation and Housing Agency, the Director of the Department of Managed Care and the State Chief Information Officer will work with public and private sector stakeholders to develop a sustainable business model for an eHealth network connecting rural health clinics to medical centers throughout the state using telemedicine and other technology.

4. The eHealth Action Forum will develop a comprehensive State policy agenda for health information technology by taking the following actions:

    - Define the goals and values of health information technology for the purposes of State policy and planning.

    - Inventory the various initiatives underway in the State related to health information technology and assess opportunities for building on those efforts, and replicate those projects that prove the feasibility and business case for health information technology and health information exchange.

    - Identify the appropriate role of State government in the development of health information technology and health information exchange versus those activities more appropriately coordinated through other entities.

    - Facilitate statewide adoption of standards and interoperability requirements for e-Health to enable the secure exchange of health information across the State and nation.
    - Identify areas where State laws and regulations hinder, rather than facilitate, adoption of health information technology, and recommend strategies to remove such barriers.

- Identify and develop strategies for the continued protection of confidentiality and privacy of health information in an electronic environment.

- Identify opportunities and strategies for a public/private partnership approach to create financially viable and sustainable business models for health information technology projects in the State.

- Develop options for advancing the implementation of health information technology through the State's role as a major purchaser, provider (State facilities) and regulator of health care services.

- Develop with stakeholders performance metrics to measure the success of the implementation of health information technology throughout the State.

5. The Secretaries and the Chief Information Officer will report back to me within 60 days after the Forum and present an action plan that outlines how the State of California will implement a comprehensive health information technology program by July 1, 2007.

IT IS FURTHER ORDERED that agencies under my direct executive authority shall cooperate in the implementation of this Order. Other entities of State government not under my direct executive authority, including the Insurance Commissioner, the University of California, the California State University, California Community Colleges, constitutional officers, and legislative and judicial branches are requested to assist in its implementation. In particular, the California Public Employees Retirement System is the major purchaser of health care for State active and retired employees and is in a unique position to facilitate the use of health information technology in the delivery of care. Therefore, the California Public Employees Retirement System is requested to participate in the Forum and assist the Secretaries and the Chief Information Officer in the implementation of this Order.

This Order is not intended to, and does not, create any rights or benefits, substantive or procedural, enforceable at law or in equity, against the State of California, its departments, agencies, or other entities, its officers or employees, or any other person.

IT IS FURTHER ORDERED that soon as hereafter possible, this Order shall be filed with the Office of the Secretary of State and that widespread publicity and notice shall be given to this Order.

IN WITNESS WHEREOF I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 24th day of July 2006.

Arnold Schwarzenegger
Governor of California

ATTEST:
BRUCE McPHERSON
Secretary of State

Appendix D

Governor’s Executive Order S-23-06

Appendix D - Governor's Executive Order S-23-06

State of California - Office of the Governor, Arnold Schwarzenegger
EXECUTIVE ORDER S-23-06

11/28/2006

Twenty-First Century Government:
Expanding Broadband Access and Usage in California (Revised)

WHEREAS deploying broadband networks and advanced communication services throughout California will enable continued improvements in health care, public safety, education, and the economy; and

WHEREAS a technology-neutral approach to removing barriers to broadband deployment will encourage lower prices and creation of more consumer choices; and

WHEREAS advanced communication services have become central to the financial health of our State, as these services have increased individual worker productivity and connected California businesses to international markets; and

WHEREAS California is ahead of all other states in dollar value of high-tech exports (approximately $50 billion last year alone);[1] and

WHEREAS California boasts more than twice as many high-tech jobs than any other state, and its average high-tech employee wage ($90,600 in 2004) leads the nation;[2] and

WHEREAS California's Web content, e-commerce, networking, telecommunications, entertainment, broadcasting, and computer software and hardware businesses have placed the State at the forefront of the Internet revolution, but to continue to be a world-class leader, California must adopt next-generation policies and practices that spur on further broadband innovation; and

WHEREAS State action is needed to continue investment in, stimulate adoption of, and remove further barriers to the development of world-class broadband networks; and

WHEREAS it is an executive priority to promote widespread access to, adoption of, and new applications for broadband networks and advanced communication services; and

WHEREAS section 709 of the California Public Utilities Code establishes that it is the State's policy to encourage expanded access to state-of-the-art technologies for rural, inner-city, low-income, and disabled Californians; and

WHEREAS the California Public Utilities Commission (CPUC) issued a report on Broadband Deployment in California that, among other items, (1) specifies how the State can be a leader in promoting the availability and use of broadband services, (2) calls for the creation of a California Broadband Task Force, (3) endorses increased use of advanced communication services for government operations and public

access, and (4) recommends limiting rights-of-way (ROW) fees assessed upon broadband providers; and

WHEREAS the Governor's Cabinet – led by the Business, Transportation and Housing Agency (BTH) – convened seventeen meetings on regional economic vitality, and civic leaders in all of these meetings called for increased broadband deployment; and

WHEREAS in accordance with Executive Order S-5-05, the California Partnership for the San Joaquin Valley has made accelerating the deployment of broadband networks and advanced communication services part of its Work Plan; and

WHEREAS ninety-two percent of California's land contains only fifteen percent of the State's population, and some of the communities in these rural areas lack the multiple telecommunication connections necessary for linking to outside resources during states of emergency, such as catastrophic fires, floods, and earthquakes; and

WHEREAS in accordance with Executive Order S-12-06, broadband networks are needed to create a sustainable eHealth network that connects rural health clinics to other State medical centers; and

WHEREAS the increased State use of broadband networks and advanced communication services will enhance government operations through telemedicine for health care, distance learning for education, and better coordination in the areas of public safety.

NOW, THEREFORE, I, ARNOLD SCHWARZENEGGER, Governor of the State of California, by virtue of the power and authority vested in me by the Constitution and statutes of the State of California, do hereby issue this Order and direct as follows:

1. The State shall create a California Broadband Task Force. This Task Force will bring together public and private stakeholders to remove barriers to broadband access, identify opportunities for increased broadband adoption, and enable the creation and deployment of new advanced communication technologies.

    a. Within thirty days of the date of this Executive Order, the Office of the Governor will name an odd number of members, no less than eleven and no more than twenty-one, to the California Broadband Task Force. These members shall include, but are not limited to, representatives from government entities having a role in infrastructure deployment, information technology, and economic development; representatives from California's private sector technology, telecommunication, and investment industries; and representatives of non-profit organizations. Two of the members shall serve as co-chairs of the California Broadband Task Force. One of these two co-chairs shall be the Secretary of BTH; the other will be selected by the Office of the Governor.

    b. Within ninety days of the date of this Executive Order, the California Broadband Task Force shall provide a preliminary report to the Office of the Governor that identifies administrative actions that can result in immediate promotion of broadband access and usage within the State.

c. Within one year of the date of this Executive Order, the California Broadband Task Force shall provide a comprehensive report to the Office of the Governor and Legislature. This report shall make specific recommendations for how California can take advantage of opportunities for and eliminate any related barriers to broadband access and adoption.

d. The California Broadband Task Force shall pay particular attention to how broadband can be used to substantially benefit educational institutions, health care institutions, community-based organizations, and governmental institutions. It shall coordinate statewide and regional efforts with public and private stakeholders to obtain and maximize grant and loan funding available for broadband deployment and development projects in the State. Discussions with private sector stakeholders will identify further opportunities for increasing investment in state-of-the-art technologies.

2. BTH shall be the Lead Agency for coordinating implementation of policies and practices launched by Sections 1-7 and 9(a) of this Executive Order. Among other responsibilities, BTH shall manage broadband data collection, in consultation with the CPUC, and develop a baseline and metrics for measuring broadband usage and benefits within the State. BTH shall work with other relevant agencies to provide an annual report to the Office of the Governor and Legislature on types and locations of broadband technologies deployed in the State, as well as public agency practices supporting broadband access, adoption, and applications. The first report shall be due within one year of the date of this Executive Order.

3. To encourage public/private partnerships among broadband stakeholders, BTH shall establish a database that identifies current and prospective projects for deploying broadband. A pilot database shall be available for use by broadband providers, State entities, and municipalities within 120 days of the date of this Executive Order.

4. All agencies, departments, boards, commissions, and offices of the executive branch under my supervisory authority (State Agencies) shall place broadband conduit in their infrastructure projects if there is sufficient demand for the conduit. Conduit placed within infrastructure projects shall be designed to be used by multiple government entities and broadband providers.

5. To promote and encourage broadband access, any charge to wired broadband providers for State ROW usage shall be based on the actual costs incurred by the State. The California Department of Transportation (Caltrans) shall propose a new rate structure pursuant to this policy within sixty days of the date of this Executive Order.

6. BTH shall lead a statewide effort to streamline ROW permitting. State Agencies granting ROW access shall adopt policies to standardize and expedite the processing of broadband providers' applications, and within 120 days of the date of this Executive Order, State Agencies shall adopt a uniform application for broadband providers seeking ROW use. State Agencies shall provide BTH annual progress reports on their permitting practices, including how long it takes to process applications. The first progress report shall be submitted to BTH within one year of the date of this Executive Order.

7. BTH shall direct development and use of an interagency best practices guide for resolution of ROW disputes between State Agencies and broadband providers. The dispute resolution process

shall be designed in a manner that promotes broadband access, adoption, and applications. State Agencies shall create the best practices guide within 180 days of the date of this Executive Order, and State Agencies shall be in compliance with this guide within 180 days of its creation.

8. To accelerate deployment of wireless broadband, the Department of General Services (DGS) shall enter into a contract with one or more companies that will place, construct, and maintain wireless broadband equipment on top of select State Agency buildings. State Agencies agreeing to the contract terms will avoid time-consuming separate negotiations and will enable faster build out of wireless broadband networks. DGS shall make every effort to complete this contract process within 180 days of the date of this Executive Order.

9. State Agencies shall lead by example and take the following actions to make State government more efficient and effective:

    a. In order to plan for future broadband deployment projects, State Agencies shall provide information to BTH that allows the Agency to map existing State infrastructure. These assets include, but are not limited to, the following: ROW owned by the State, ROW subject to State regulation, broadband infrastructure owned by the State, broadband infrastructure leased by the State, State buildings (owned or leased), and investment projects relating to broadband.

    b. DGS and the Department of Technology Services (DTS) shall facilitate State use of streaming video technologies to broadcast public meetings over the Internet, enable remote access to staff training materials, and give widespread emergency notifications. Within 180 days of the date of this Executive Order, DGS shall enter into a contract with one or multiple companies for offering Webcasting services to State Agencies. DTS shall provide technical consulting and training to State Agencies that elect to use Webcasting services.

    c. To enable the use of cost-effective videoconferencing, DGS shall identify State Agencies with significant field office operations and provide them information on how videoconferencing may increase Agency efficiency.

    d. DGS shall encourage the offering of wireless Internet access in State facilities that are most used by the public. DGS shall identify State buildings that may be appropriate for wireless Internet access and provide them information on the benefits of offering this service. In particular, DGS shall pursue deployment of wireless Internet access in the State Capitol Building, which hosts several hundred thousand visitors each year. DGS shall make a proposal to the Legislature and Office of the Governor for wireless access in the Capitol within 180 days of the date of this Executive Order.

    e. DGS and DTS shall enable the deployment of Voice over Internet Protocol (VoIP) technologies that meet the business needs of State Agencies and improve quality of service provided to California residents. Within 180 days of the date of this Executive Order, DGS shall enter into a contract with one or multiple companies for offering VoIP services to State Agencies. DTS shall provide technical consulting and training to State Agencies that elect to use this contract.

IT IS FURTHER ORDERED that State Agencies shall cooperate in the implementation of this Order. Other entities of State government not under my direct executive authority, including the CPUC, the University of California, the California State University, California Community Colleges, constitutional officers, and legislative and judicial branches are requested to assist in its implementation.

This Order is not intended to, and does not, create any rights or benefits, substantive or procedural, enforceable at law or in equity, against the State of California, its departments, agencies, or other entities, its officers or employees, or any other person.

IT IS FURTHER ORDERED that soon as hereafter possible, this Order shall be filed with the Office of the Secretary of State and that widespread publicity and notice shall be given to this Order.

[1] AeA, Cyberstates 2006: A Complete State-by-State Overview of the High-Technology Industry 42 (2006).

<[2] Id. at 18, 32.

IN WITNESS WHEREOF I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 2

Appendix E

List of UC Specialty Services

Appendix E – List of UC Specialty Services

The University of California's Medical Centers have providers in numerous specialties, including:

Aging / Geriatric Medicine
Allergy / Immunology
Anesthesiology / Pain Management
Audiology
Burn
Cardiology
Corporate / Executive Health Services
Dermatology
Complementary / East-West Medicine
Emergency Medicine
Endocrinology, Diabetes, and Metabolism
Family and Community Medicine
Gastroenterology
Genetics
General Medicine
Hematology
HIV & AIDS
Infectious Diseases
Internal Medicine / Primary Care
Nephrology
Neurology / Neurological Disorders
Nutrition
Obstetrics and Gynecology
Oncology
Ophthalmology / Eye Care
Otolaryngology; Head and Neck Surgery
Palliative Care
Pathology
Pediatrics, General
Pediatric Subspecialties
Physical Therapy and Rehabilitation
Psychiatry
Pulmonary and Critical Care Medicine
Radiation Oncology
Radiology
Rheumatology
Reproductive Endocrinology and Infertility
Speech Pathology
Sports Medicine
Surgery, General
    Bariatric
    Cardiothoracic
    Colon and rectal
    Neurological
    Oncology
    Orthopaedic
    Plastic/Reconstructive
    Spine
    Urology
    Vascular
Transplant Services

Appendix F

Acronym List

Appendix F – Acronym List

Acronym	
ATM-CBR	Asynchronous Transfer Mode- Constant Bit Rate
BGP	Border Gateway Protocol
BTH	Business, Transportation and Housing
CALIT2	California Institute for Telecommunications and Information Technology
CALREN2	California Research and Education Network 2
CBTF	California Broadband Task Force
CCHN	Community Clinics Health Network
CDHS	California Department of Health Services
CENIC	Corporation for Education Network Initiatives in California
CEO	Chief Executive Officer
CETF	California Emerging Technology Fund
CHA	California Hospital Association
CHE	Continuing Health Education
CHFT	California Health Foundation and Trust
CHHSA	California Health and Human Services Agency
CHIP	Coronary Heart Improvement Program
CHT	Center for Health and Technology
CITRIS	Center for Information Technology Research in the Interest of Society
CLEC	Competitive Local Exchange Carrier
CME	Continuing Medical Education
CMS	Center for Medicare and Medicaid Services
CO	Central Office
CPCA	California Primary Care Association
CPUC	California Public Utilities Commission
CSRHA	California State Rural Health Association
CSUS	California State University System
CTEC	California Telemedicine & eHealth Center
CTN	California Telehealth Network
CVHN	Central Valley Health Network
DMHC	Department of Managed Health Care
DNS	Domain Name Service
DS3	Digital Signal 3
DWDM	Dense-Wave Division Multiplexing
EGRP	Enhanced Gateway Routing Protocol
EHR	Electronic Health Record
ePHI	Electronic Protected Health Information

Acronym	
E-RTN	Existing Rural Telehealth Network
FCC	Federal Communications Commission
FTP	File Transfer Protocol
GDP	Gross Domestic Product
GIS	Geographic Information System
HCP	Health Care Provider
HDV	High Definition Video
HHS	Health and Human Services
HIPAA	Health Insurance Portability and Accountability Act
HIT	Health Information Technology
HIV/AIDS	Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome
HP	Hewlett Packard
HPSA	Health Professional Shortage Area
HPSA – PC	Health Professional Shortage Area – Primary Care
HTTP	Hypertext Transfer Protocol
ICU	Intensive Care Unit
IEEE	Institute of Electrical and Electronics Engineers
IGRP	Interior Gateway Routing Protocol
IHS	Indian Health Service
ILEC	Incumbent Local Exchange Carrier
IP	Internet Protocol
IS	Information Services
ISDN	Integrated Services Digital Network
ISO-OSI	International Standards Organization - Open Systems Interconnection
IT	Information Technology
LAN	Local Area Network
LEC	Local Exchange Carrier
MH	Mental Health
MIB	Management Information Bases
MPLS	Multi-Protocol Label Switching
MPLS-COS	Multi-Protocol Label Switching - Class of Service
NAT	Network Address Translation
NIMS	National Incident Management System
NLR	National LambdaRail
NSF	National Science Foundation
NSRHN	Northern Sierra Rural Health Network
OC	Optical Carrier
ODCHC	Open Door Community Health Centers

Acronym	
OES	Office of Emergency Services
OSHPD	Office of Statewide Health Planning and Development
OSI	Open Systems Interconnection
OSPF	Open Shortest Path First
PC	Primary Carrier
POP	Points of Presence
PRIME	Programs in Medical Education
PUC	Public Utilities Commission
PVC	Permanent Virtual Circuit
QOS	Quality of Service
RFC	Request for Comment
RFI	Request for Information
RFP	Request for Proposal
RHI	Rural Hub Infrastructure
RTAC	Rural Technology Advisory Committee
RUCA	Rural Urban Commuting Area Codes
SLA	Service Level Agreement
SMTP	Simple Mail Transfer Protocol
SNMP	Simple Network Management Protocol
SSL	Secure Socket Layer
SSTN	Southern Sierra Telehealth Network
S-VRH	Specific Virtual Regional Hub
TATRC	Telemedicine and Advance Technologies Research Center
TBD	To Be Determined
TCP	Transmission Control Protocol
TLC	Telemedicine Learning Center
TRUST	Team for Research in Ubiquitous Secure Technologies
TVSC	Telehealth and Visiting Specialist Center
UBIC	UCLA Biomedical Informatics Center
UC	University of California
UCD	University of California, Davis
UCDHS	University of California, Davis Health System
UCLA	University of California, Los Angeles
UCOP	University of California, Office of the President
UCSD	University of California, San Diego
UCSF	University of California, San Francisco
US	United States
USAC	Universal Service Administrative Company

Acronym	
USC	University of Southern California
USDA-RUS	United States Department of Agriculture - Rural Utilities Service
VLAN	Virtual Local Area Network
VPN	Virtual Private Network
V-RH	Virtual Regional Hub

Appendix G

Letters of Support/Commitment

UNIVERSITY OF CALIFORNIA

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SANTA BARBARA • SANTA CRU

OFFICE OF THE PRESIDENT

Robert C. Dynes
President

1111 Franklin Street
Oakland, California 94607-520
Phone: (510) 987-9074
Fax: (510) 987-9086
http://www.ucop.edu

May 3, 2007

Mr. Kevin J. Martin
Chairman
Federal Communications Commission
445 - 12th Street, SW
Washington, D.C. 20554

Dear Chairman Martin:

The University of California (UC) is pleased to submit this application on behalf of the State of California for funding to support a proposed new statewide California Telehealth Network in response to the Federal Communication Commission's Order for the Rural Health Care Support Mechanism.

In developing this proposal, new partnerships have been created that join the University's health sciences instructional system together with the interests of Governor Schwarzenegger, State and federal legislators, private industry, and rural California health facilities to create a new state-of-the-art California Telehealth Network. This initiative aligns closely with the Governor's priorities for accelerating the deployment of broadband telecommunication technologies, as well as with UC priorities for investing new bond funding for statewide telemedicine purposes. The proposed pilot would also encourage other public and private entities to work with us to develop a state-of-the-art network that will play a major role in meeting California's growing health-care needs.

As you may be aware, the UC system operates the largest health sciences program in the nation and our five academic medical centers serve as major providers of patient services. In view of growing state shortages of physicians, nurses and other health professionals, we have recently completed a major systemwide planning effort for the health professions. In keeping with this plan, UC intends to increase the number of students admitted to four of our five medical schools in fall 2008 through new teaching programs that focus uniquely on the needs of medically underserved communities.

As recently as November 2006, California voters approved an important bond initiative that will provide $200 million in funding to support this expansion and fund development of new telemedicine programs to increase access to specialty services provided by UC medical school faculty. As we work toward our vision for a new statewide network, we are fortunate and proud to have an outstanding record of success with telemedicine as a result of efforts by

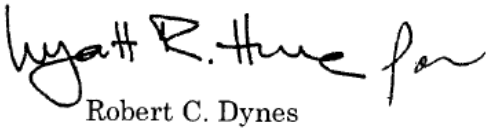
our UC Davis (UCD) campus and the UCD Health System. I am pleased to note it was recently recognized as a national leader and awarded the prestigious President's Award by the American Telemedicine Association.

As indicated in several letters of support for this proposal, UC was asked by State agencies, the rural health community, and other partners to serve as the lead organization and applicant for the project. Although we are ready and committed to filling this role, we intend for this to remain a joint endeavor with our partners through all phases of the project. If funding for the pilot is provided, the Office of the President's Division of Health Affairs and the UC Davis Health System will share the responsibility for leading and managing the project.

If you have questions about the application, please get in touch with Cathryn Nation, M.D., Executive Director--Health Sciences, who is the lead for my office or Thomas Nesbitt, Executive Associate Dean at the UC Davis Health System, who is the lead for UC Davis. Dr. Nation can be reached by telephone at (510) 987-9705 and Dr. Nesbitt can be reached by telephone at (916) 734-1358.

We look forward to your review and feedback.

Sincerely,



Robert C. Dynes

Enclosure

cc: Chancellor Vanderhoef
Provost Hume
Executive Vice President Darling
Assistant Vice President Arditti
Assistant Vice President Sudduth
Executive Director Nation
Executive Associate Dean Nesbitt

UNIVERSITY OF CALIFORNIA, DAVIS

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LARRY N. VANDERHOEF
Chancellor at Davis

OFFICE OF THE CHANCELLOR
ONE SHIELDS AVENUE
DAVIS, CALIFORNIA 95616-8558
TELEPHONE: (530) 752-2065
FAX: (530) 752-2400

May 5, 2007

Mr. Kevin J. Martin
Chairman
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Dear Chairman Martin:

It is with great pleasure that I am writing to support the California proposal for the Federal Communications Commission Rural Health Pilot Program. UC Davis has one of the leading telemedicine programs in the world, and I am proud of the impact we have had on rural California.

I recently had a chance to present the UC Davis Telemedicine Program to the UC Board of Regents. As a component of our presentation, we showed a video that tells the story of a child from Willits, a small town that is approximately four hours north of Sacramento. He was brought to this rural emergency department in critical condition and, by most accounts, would likely have died without the telemedicine link to UC Davis Children's Hospital. Our faculty physicians collaborated with the local clinicians to guide them in life-saving procedures.

The pediatric critical care program is just one example of the work that has been accomplished by Drs. Tom Nesbitt and Jim Marcin and their colleagues in an effort to improve health care and the quality of life for the people of this State.

The FCC pilot program to expand broadband deployment throughout California is critical to expand access to healthcare services. The University of California, Davis, offers resources beyond just the School of Medicine to support this goal. For example, the College of Engineering has experts in telecommunications, information, and robotics technology who can contribute to this important project.

As a land grant institution, UC Davis has a mission to serve society's needs, with a special obligation to the people of Northern California. We are committed to outreach, and telemedicine is a key illustration of our achievement in reaching well beyond our

campus to work closely with communities. As a leading research institution, we also discover new knowledge and advance technology. This places UC Davis as a match for the goals of the FCC pilot – to expand access to healthcare and to implement innovative technology.

We are excited about this opportunity, and are prepared to support the state-wide expansion of telemedicine.

Sincerely,

Larry N. Vanderhoef
Chancellor

/jdl

c: Vice Chancellor and Dean Pomeroy

UNIVERSITY OF CALIFORNIA, DAVIS

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OFFICE OF THE VICE CHANCELLOR
HUMAN HEALTH SCIENCES

OFFICE OF THE DEAN
SCHOOL OF MEDICINE
TELEPHONE: (916) 734-7131
FAX: (916) 734-7055

UC DAVIS HEALTH SYSTEM

4610 X STREET
SACRAMENTO, CALIFORNIA 95817

MEDICAL SCIENCES 1-C
DAVIS, CALIFORNIA 95616

May 3, 2007

Mr. Kevin J. Martin
Chairman
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Dear Chairman Martin,

I am writing to strongly support the California proposal to the Federal Communications Commission Pilot Project. For the past months, I have worked closely with the consortium of stakeholders in our state to create what we believe is a unique proposal that blends technical innovation with cost effectiveness to achieve the ultimate goal of increasing access the healthcare services.

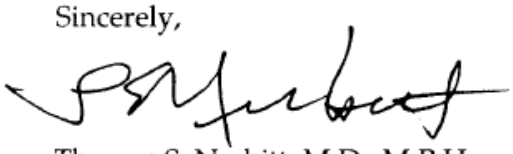
Since 1992, UC Davis has utilized technology to improve access to quality healthcare services. As Director of the Center for Health and Technology, I oversee a broad program that includes inpatient and outpatient clinical telemedicine, distance education, and medical informatics. We currently provide clinical and educational services to over eighty sites throughout California. In May of 2006, our program was given the President's Award from the American Telemedicine Association in recognition of our broad impact of the field of telemedicine. As an academic medical center, one of our mission areas is to share knowledge. Since 1999 we have trained over a thousand people around the world to implement telemedicine through our Telemedicine Learning Center. Similarly, we have technical assistance contracts with a variety of organizations seeking to increase access to care for underserved populations. We also work closely with the State of California in the area of disaster preparedness, specifically to implement telehealth and other technology support solutions.

UC Davis is prepared to play a leadership and resource role for the California FCC Pilot proposal. This role as "resource" for technical, operational and policy issues is similar to UC Davis' participation in the implementation of the Proposition 1D funding, so it is a natural fit for the FCC pilot project. Center for Health and Technology staff and faculty will work closely with the UC Office of the President and the consortium members to design, implement and monitor the network architecture. In addition, we

will continue our work in training and technical assistance to ensure that organizations who benefit from the FCC pilot funding have sustainable models to succeed beyond the grant period.

This pilot project is an exceptional opportunity for technical innovation and represents the next phase of telehealth in the nation. UC Davis is enthusiastic about participating in such a project and we encourage the Commission to give consideration to the California proposal.

Sincerely,



Thomas S. Nesbitt, M.D., M.P.H.
Executive Association Dean,
Clinical and Administrative Affairs
Director, Center for Health and Technology
Professor, Department of Family and Community Medicine

PUBLIC UTILITIES COMMISSION
STATE OF CALIFORNIA
505 VAN NESS AVENUE
SAN FRANCISCO, CALIFORNIA 94102

MICHAEL R. PEEVEY
PRESIDENT

TEL: (415) 703-3703
FAX: (415) 703-5091

May 1, 2007

Chairman Kevin J. Martin
Federal Communications Commission
445 12th Street SW
Washington, D.C. 20554

Re: Application of California re FCC Rural Health Care Pilot Program

Dear ~~Chairman~~ Kevin Martin:

As the Chairman of the California Public Utilities Commission (CPUC) and the Chairman of the Board of the California Emerging Technology Fund (CETF), I am pleased to express my support and endorsement of the California's Telemedicine Application for the Federal Communications Commission Rural Health Care Pilot Program.

The deployment of broadband technology throughout California is one of the CPUC's major goals. Recently, the CPUC formed a non profit organization, CETF, with voluntary donations of $60 million from SBC and Verizon relating to their mergers with AT&T and MCI, respectively. The goal of the CETF is to bring broadband to unserved or underserved communities in California. As noted in the accompanying letter of support from Sunne Wright McPeak, CETF President and Chief Executive Officer, CETF has committed up to $3.6 million over two years towards the 15% match required by the FCC for the California Telemedicine application. As the Chairman of the CETF Board, I wished to personally assure you that CETF, and the CPUC as well, are committed to bridging the digital divide in California and share the laudable goals of the Rural Health Care Pilot Program to bring telemedicine to our rural areas.

My colleague, Commissioner Rachelle Chong (a former FCC commissioner whom I know you have met), has helped lead and support the efforts of an unprecedented statewide group consisting of University of California, health care providers across the state, many

state government agencies, and other stakeholders to craft this single California application for funding under the Rural Health Pilot Program. This group has worked very hard to prepare an application that we think is consistent with the FCC's stated goals and objectives in its order establishing this pilot program. I urge you to consider this California application carefully.

Thank you very much in advance for your consideration.

Sincerely yours,

Michael R. Peevey
President

Cc: Governor Arnold Schwarzenegger
Secretary Dale Bonner, Business, Transportation and Housing Agency
Sunne Wright McPeak, President and CEO, CETF

CETF
CALIFORNIA EMERGING TECHNOLOGY FUND

RECEIVED
APR 25 2007
PRESIDENT'S IMMEDIATE OFFICE
WRH | 4/25

April 24, 2007

Please draft a response for the President

xc: RCD
BBD
LCH
SA
CMC

President Robert Dynes
University of California
1111 Franklin Street, 12th Floor
Oakland, California 94607

Dear President Dynes:

The purpose of this letter is to confirm that the California Emerging Technology Fund (CETF) has committed up to $3.6 million over two years towards the 15% match required by the Federal Communications Commission for a Rural Telemedicine Pilot Project in California being submitted by the University of California on behalf of a consortium of collaborative partners. This action was taken by the CETF Board of Directors at their regular meeting on December 12, 2006.

The California Emerging Technology Fund is a non-profit public benefit corporation established pursuant to orders from the California Public Utilities Commission (CPUC) in approving the mergers of SBC-AT&T and Verizon-MCI in 2005. As a condition of the mergers, the companies are required to contribute to CETF a total of $60 million over 5 years as seed capital. As per the directive from the CPUC, the mission of the California Emerging Technology Fund is to provide leadership statewide to minimize the Digital Divide by accelerating the deployment of broadband technology and increasing adoption in underserved communities throughout California.

The California Emerging Technology Fund has researched the existing literature and conducted "fact finding" meetings throughout California to obtain input in preparing a Strategic Action Plan. The approved CETF Strategic Action Plan framework identifies telemedicine as a key strategy for driving deployment of broadband technology into underserved communities. Thus, CETF regards the California Rural Telemedicine Pilot Project proposal to the FCC as a very high priority for a matching grant. Further, CETF is committed to continuing to work with all the partners who have collaborated in preparing the California proposal to ensure that the FCC project is successful.

Sincerely,

Sunne Wright McPeak

Sunne Wright McPeak
President and Chief Executive Officer

c: Governor Arnold Schwarzenegger
Secretary Dale Bonner, Business, Transportation and Housing Agency

The California Emerging Technology Fund ✦ The Hearst Building ✦ 5 Third Street, Suite 520 ✦ San Francisco, CA 94103
415-744-CETF phone ✦ 415-744-2399 Fax ✦ www.cetfund.org

California Partnership for the
San Joaquin Valley

May 4, 2007

Mr. Kevin J. Martin
Chairman
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Dear Chairman Martin:

On behalf of the California Partnership for the San Joaquin Valley (Partnership), we are pleased to endorse the University of California's Application for the Federal Communication Commission Rural Health Care Pilot Program (FCC Pilot Program).

The accelerated deployment of broadband telecommunication technologies in the San Joaquin Valley, specifically for use in telemedicine, is one of the priorities of the Partnership's ten year strategic action plan, which was recently adopted by Governor Schwarzenegger. The FCC Pilot Program will complement and add value to our Advanced Communication Services tele-health initiative, which encourages public and private sector stakeholders to join with the San Joaquin Valley's rural health care providers in developing a strategy for the creation of a region- and statewide telemedicine network.

Together with an investment from the California Emerging Technology Fund, the FCC's funds will make quality health care more accessible to residents living in the Valley's rural areas. In addition, a grant was recently provided from the Partnership to the University of California Merced's tele-health initiative that is included in this proposal. The Partnership grant will help sustain the efforts of the FCC Pilot Program.

Again, please accept our strong support for University of California's application. We look forward to working with the FCC and the University of California to advance tele-health applications in the San Joaquin Valley.

Sincerely,

Connie Conway
Tulare County Board of Supervisors
Chair, California Partnership for the San Joaquin Valley

5010 N Woodrow Ave.
2nd Floor, M/S WC 142
Fresno, California 93740

559.294.6021 T
559.294.6024 F

Northern Sierra Rural Health Network

April 26, 2007

Mr. Kevin J. Martin
Chairman
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Dear Chairman Martin:

Northern Sierra Rural Health Network (NSRHN) strongly supports the application of the University of California in response to the FCC Rural Health Care Pilot Program. NSRHN members consist of isolated rural health providers that are located hundreds of miles away from urban specialty centers. With the help of the FCC Rural Health Care Universal Service Program, NSRHN members have been able to expand access to care and improve quality through the use of telemedicine services since 2000.

The application submitted by the University demonstrates an unprecedented collaboration between public and private entities within the state of California. The dream to bring broadband services to remote corners of the state is now being realized through the commitment of the wide array of partners you see listed in the application. With the participation of the FCC, rural health providers that have long been disenfranchised from the benefits of technology can now take advantage of a state-of-the art network that will provide security, high-speed, high-bandwidth connectivity at an affordable price.

NSRHN was one of many organizations from around the country that urged the FCC to think creatively of how it could expand the benefits of the rural heath care program to more communities. We are very pleased that the FCC has launched this exciting program and we look forward to working with our partners in California to make this a successful model program that can be replicated in other parts of the country.

Sincerely,

SPERANZA AVRAM
Executive Director

138 New Mohawk Rd., Suite 100 Nevada City, CA 95959
(530) 470-9091 FAX (530) 470-9094 E-mail: info@nsrhn.org

Ridgecrest
REGIONAL HOSPITAL

April 27, 2007

Mr. Kevin J. Martin, Chairman
Federal Communications Commissions
445 12th Street SW
Washington, DC 20554

Dr. Chairman Martin,

As CEO of Ridgecrest Regional Hospital, I am pleased to endorse the University of California's Application for the Federal Communication Commission Rural Health Care Pilot Program (FCC Pilot Program).

I am writing on behalf of the Southern Sierra Telehealth Network, which is a part of that application and is a telemedicine network established in 2000 by our hospital. We were initially funded for this project by the California Telemedicine and e-Health Center, but we are now self-sustaining and performed 1236 interactive telemedicine visits last year. We are a small hospital that serves the remote high desert areas east of the Sierra Nevada mountain range and a medically underserved population with few medical specialists. We have no resident psychiatrists, pulmonologists, or intensivists and lack many other critically needed specialists. We are located 85 miles from the next largest hospital and more than two hours ambulance ride from the nearest tertiary care medical center. Telemedicine has been the only way that we can obtain psychiatric consultations in our area, for example, and we have extended those services and other specialty consults to critical access hospitals and other facilities in areas even more remotely located than our facility.

The accelerated deployment of broadband telecommunications technologies that the FCC Pilot Program would provide would greatly improve the capabilities of our network to provide health care services to our region, which serves patients from 12% of the land area of California but has a population of only 136,000.

(760) 446-3551 • TDD (760) 446-7505
1081 North China Lake Boulevard • Ridgecrest, CA 93555

Together with an investment from the California Emerging Technology Fund, the FCC's funds will make quality health care more accessible to Californians living in rural areas. In addition, successful implementation of the FCC Pilot Program in California will demonstrate how to effectively bring the benefits of broadband connectivity to health care providers and patients in rural areas around the nation.

We appreciate the opportunity to compete for federal funds that will provide much needed assistance to those living in California's rural areas and enable California providers to make our state's medical expertise available to rural areas throughout the nation.

Sincerely,

David A. Mechtenberg, CEO

Central Valley Health Network

1107 North Street, Suite 810
Sacramento, CA 95814
916.552.2646 Fax 444.2424
email: [illegible]
www.cvhn.org

Caring for

California's

Heartland

Members

Clinica Sierra Vista

Community Medical Centers

Darin M. Camarena Health Centers

Del Norte Clinics

Family HealthCare Network

Golden Valley Health Centers

Inland Behavioral & Health Services, Inc.

Livingston Medical Group

National Health Services

Sequoia Community Health Centers

Tulare Community Health Clinic

United Health Centers of the San Joaquin Valley

Valley Health Team

Chief Executive Officer

David Quackenbush

Providing Quality Health Services to the Medically Underserved at 103 Central Valley Locations in 9 Counties

April 26, 2007

Mr. Kevin J. Martin
Chairman
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Dear Chairman Martin:

On behalf of the Central Valley Health Network (CVHN), I am writing in support of the University of California's Application for a Federal Communication Commission Rural Health Care Pilot Program (FCC Pilot Program). This application is evidence of collaboration between numerous health care providers throughout California which will be tantamount to the FCC Pilot Program's success. CVHN has been involved with the program development and is committed to the project.

CVHN is a consortium of 13 Federally Qualified Health Center nonprofit corporations that provide comprehensive, preventive primary care services throughout the Central Valley of California. CVHN Members operate 102 sites in 19 counties providing 2.2 million encounters to 500,000 patients annually. As CVHN is implementing its own Videoconferencing and Telemedicine project, we look forward to the FCC Pilot Program which will increase access to health care services in the Central Valley and shares in a common vision with CVHN.

As California continues to grow in underserved populations, rural areas of the Central Valley increase in needs but not in services. Telemedicine and eHealth are vital to increasing access in the Central Valley and are the only opportunity in some communities to increase health care services as the Central Valley has been historically neglected of vital services.

CVHN strongly encourages your support for this very important project and is committed to participate in this unique California collaboration.

Sincerely,

David Quackenbush
Chief Executive Officer

OPEN DOOR
Community Health Centers

Administration
670 Ninth St., Suite 203
Arcata, CA 95521
Tel: 707-826-8633
Fax: 707-826-8638

Finance
670 Ninth St., Suite 203
Arcata, CA 95521
Tel: 707-826-8627
Fax: 707-822-2894

Billing
770 Tenth Street
Arcata, CA 95521
Tel: 707-826-8642
Fax: 707-826-8611

Corporate Services
760 Fifteenth Street
Arcata, Ca 95521
Tel: 707-826-9926 x11
Fax: 707-826-9928

- **Humboldt Open Door Clinic**
  770 Tenth Street
  Arcata, CA 95521
- **Eureka Community Health Center**
  2412 Buhne Street
  Eureka, CA 95501
- **Burre Dental Center**
  959 Myrtle Avenue
  Eureka, CA 95501
- **Del Norte Community Health Center**
  200 A Street
  Crescent City, CA 95531
- **McKinleyville Community Health Center**
  1644 Central Ave, Suite F
  McKinleyville, CA 95519
- **NorthCountry Clinic**
  785 Eighteenth Street
  Arcata, CA 95521
- **Orick Health Center**
  120918 Highway 101
  Orick, CA 95555
- **Smith River Health Center**
  110 First St, Suite B
  Smith River, CA 95567
- **Mobile Health Services**
  760 Fifteenth Street
  Arcata, Ca 95521
- **Telehealth and Visiting Specialist Center**
  2426 Buhne Street
  Eureka, CA 95501

April 26, 2007

Mr. Kevin J. Martin
Chairman
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Dear Chairman Martin:

Open Door Community Health Centers (ODCHC) strongly supports the application of the University of California in response to the FCC Rural Health Care Pilot Program. Through our ten clinics and mobile dental van, the Open Door serves the isolated North Coast region of California, bringing vital specialty care to our rural region through our telemedicine network. Through funding support from Federal, State, local and private agencies, ODCHC has been able to expand access to care for the poor, underserved and uninsured through the use of telemedicine services since 1999.

We are very excited about the unparalleled collaboration that the University's proposal represents, and I firmly believe that the multilevel partnership will significantly improve the health of rural people across the state of California.

ODCHC has long been a leading advocate for rural issues, and has championed the potential of telemedicine to alleviate the disparities in access and quality of health care across economic and geographic barriers. The new FCC program is an important step toward improving the health and quality of life of rural America, and we look forward with excitement to working with our partners in California to make this a successful model program.

Sincerely,

Herrmann Spetzler
Chief Executive Officer

COUNCIL OF COMMUNITY CLINICS

April 27, 2007

Mr. Kevin J. Martin
Chairman
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Dear Chairman Martin:

The Community Clinics Health Network (CCHN) strongly supports the application of the University of California in response to the FCC Rural Health Care Pilot Program. The Community Clinics Health Network (CCHN) is a 501(c)(3), not-for-profit subsidiary of the Council of Community Clinics, founded in 1993 to provide managed care contracting and management support to San Diego's community health centers. Today, the mission of CCHN has broadened to include activities to enhance quality of care, improve population health outcomes and strengthen business efficiencies by offering specialized programs, services and technology expertise to over 30 community clinic and health center organizations. CCHN provides technical expertise in quality and operational management and managed care support including contracting, utilization review and credentialing. CCHN also provides quality improvement and disease management services and assistance to participating community health centers.

It is the vision of CCHN to be recognized as a national leader for creating model programs, sharing expertise, and providing exceptional services in collaborative healthcare ventures that result in stronger community clinics and health centers, as well as healthier communities. CCHN members consist of both isolated rural and urban specialty health providers that span Imperial, Riverside and San Diego Counties which are often hundreds of miles away from each other. With the help of the FCC Rural Health Care Universal Service Program, CCHN members have been able to expand access to care and improve quality through the use of telemedicine services since 2005.

The application submitted by the University demonstrates an unprecedented collaboration between public and private entities within the state of California. The dream to bring broadband services to remote corners of the state is now being realized through the commitment of the wide array of partners you see listed in the application. With the participation of the FCC, rural health providers that have long been disenfranchised from the benefits of technology can now take advantage of a state-of-the art network that will provide security, high-speed, high-bandwidth connectivity at an affordable price.

Sincerely,

B. Kathlyn Mead
Chief Executive Officer

619.542.4300 • Fax 619.542.4350 • www.ccc-sd.org
7535 Metropolitan Drive • San Diego, CA 92108 • Mailing Address: P.O. Box 880969 • San Diego, CA 92168

DEPARTMENT OF HEALTH & HUMAN SERVICES

PUBLIC HEALTH SERVICE

Indian Health Service
California Area Office
650 Capitol Mall, Suite 7-100
Sacramento, California 95814-4708

Mr. Kevin J. Martin.
Chairman
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

May 4, 2007

Dear Chairman Martin,

As the Area Director of the California Area Indian Health Service, I would like to comment on our working relationship and collaboration with the University of California, an applicant for the Federal Communication Commission Rural Health Care Pilot Program (FCC Pilot Program).

The California Area began developing a telemedicine network in 2001. Since then, we have partnered with the California Telemedicine and e-Health Center and the University of California - Davis to leverage their impressive administrative and professional resources in Indian country. Based on the rural locations and widely dispersed population, the California Area Indian Health Service sees tele-health as a very cost-effective, patient friendly method of delivering health care resources to our underserved communities. Population sizes and dispersion of tribal groups in the California Area make it unlikely that a hospital-based service program will develop within the California Area. In order to provide services to our patients on a limited budget (annual per capita expenditures of $1900, compared with national average of $4500), we have only been able to extend this service delivery modality to 11 of our 34 tribal and urban Indian sites. One of the major capital investments has been the high costs associated with installing data lines and maintaining connectivity, due to the very rural location of many of the tribal health programs.

The American Indian population in California suffers from a high prevalence of diabetes, depression, substance abuse and unintentional injuries; all of which contribute to their early death and disability. Health disparities remain a significant challenge because of the current lack of access to inpatient and specialty health care services.

Through our relationship with the University Of California we have been able to utilize telemedicine services more easily in remote rural locations which have been historically medically underserved

Sincerely,

Margo Kerrigan

Margo Kerrigan, MPH
California Area Director
Indian Health Service

Supporting the economic, social and environmental well-being of California's Central Valley

201 Needham Street
Modesto, CA 95354
Phone: (209) 522-5103
Fax: (209) 522-5116
www.greatvalley.org

May 5, 2007

Mr. Kevin J. Martin, Chairman
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: *California Application to FCC re Telemedicine Grant*

Dear Chairman Martin:

On behalf of the Great Valley Center, I would like to urge your consideration and support for the University of California's application for the Federal Communication Commission Rural Health Care Pilot Program (FCC Pilot Program).

The Great Valley Center is a 501(c)(3) organization, serving the 19 counties in the agricultural middle of California. The Center offers a number of programs relating to community and economic development, including the Central Valley Digital Network and Pixley Connect. Based on our experience in the region, we understand how rural isolation, especially isolation from advanced communication services, limits the rural residents' ability to partake of services and opportunities that are commonly available to people living in more densely populated and more affluent areas of the State and the Nation.

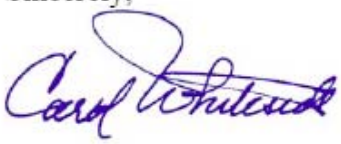
According to the Public Policy Institute of California, the Central Valley is growing faster than the country of Mexico, fueled by high birth rates and immigration, both legal and illegal. The Congressional Research Service, in a report issued in the spring of 2004, said the region has a per capita income lower than that of Appalachia and receives far less than state and national averages of federal dollars for all purposes. It is a region that historically has been underserved, both geographically and economically isolated from the rest of the state, existing on the outputs of a rich and productive agricultural economy. The Valley is also home to a very high percentage of individuals without health insurance or the means to be self funded.

While this proposal will not solve all the problems of rural California, it will provide service to large numbers of rural residents, especially in the Valley, create a model that can be replicated and sustained, and will provide a significant boost to increasing the value and use of advanced telecommunications services in California.

The University and its Partners have sufficient experience to create and implement a sustainable project, and in so doing will add an important layer to the long term vision of ubiquitous access to advanced telecommunications services. The model can then be expanded, building on the physical and intellectual infrastructure that will be enhanced by this project.

Thank you for your consideration. Should the California application be chosen by the selection process, the visibility and credibility of its implementation will advance the use and adoption of high-speed communication, in California and across the Nation.

Sincerely,



Carol Whiteside
President

California Institute for Telecommunications and Information Technology
A UCSD/UCI PARTNERSHIP
www.calit2.net

Mr. Kevin J. Martin
Chairman
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

May 4, 2007

Dear Chairman Martin,

As Director of the California Institute of Telecommunications and Information Technology (Calit2), I am writing to strongly endorse the University of California's Application under the Federal Communications Commission's Rural Health Care Pilot Program (FCC Pilot Program).

I am also a member of Governor Arnold Schwarzenegger's Broadband Task Force (BTF), and I am convinced that the proposed rural telemedicine project is both necessary and beneficial to the region, to the state, and to the nation. The FCC Pilot Program complements the State of California's Health Information Technology and Broadband Initiatives, and it brings together private and public sector interests to advance this cause.

The institute which I lead, Calit2, has developed a number of telemedicine applications over the past four years. These projects will be immediately useful to clinicians in rural areas once the state's broadband infrastructure is extended. The FCC Pilot Project will allow us to leverage prior federal research investments and begin to improve the quality of care through telemedical applications. The most promising of these technologies is STRokE-DOC, an NIH-funded clinical research project that is already proving effective through remote evaluation of stroke victims by stroke specialists of the UCSD Stroke Center. STRokE-DOC has recently received additional funding from the State to be featured -- along with other Calit2 initiatives -- in the Southern California Telemedicine Learning Center (TLC), announced just yesterday.

We appreciate the opportunity to support this important proposal from the University of California and believe that these efforts represent an important first step in narrowing the urban-rural digital divide while improving health care throughout the nation.

Sincerely,

Larry Smarr

Larry Smarr
Director
California Institute for Telecommunications and Information Technology

LARRY SMARR
Director

University of California, San Diego
9500 Gilman Drive
La Jolla, CA 92093-0436

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CALIFORNIA HOSPITAL ASSOCIATION

Providing Leadership in Health Policy and Advocacy

April 27, 2007

Mr. Kevin J. Martin
Chairman
Federal Communications Commission
445 12th Street SW
Washington DC 20554

Dear Chairman Martin:

As the Executive Vice President and Chief Operating Officer of California Hospital Association (CHA), I am pleased to endorse the University of California's Application for the Federal Communication Commission Rural Health Care Pilot Program (FCC Pilot Program).

CHA is the statewide leader representing the interests of hospitals and health systems in California. CHA includes nearly 450 hospital and health system members, and more than 150 Executive, Associate and Personal members. The FCC Pilot Program will work hand-in-hand with our goal of providing every Californian equitable access to affordable, high-quality, medically necessary health care. Only through such practical, progressive steps as evidenced by the goals of this grant can the health status of Californians be improved. CHA is pleased to support this shared vision.

I hope that you will give strong consideration to the University of California's Application to the FCC Pilot Program. Their success in telemedicine speaks volumes about their ability to achieve the common goal.

Thank you for the opportunity to compete for the FCC Pilot funds. If awarded, the funds will provide much needed healthcare access to rural populations.

Sincerely,

Lois M. Suder
EVP/Chief Operating Officer

LMS:ag

1215 K Street, Suite 800, Sacramento, CA 95814 · *Telephone:* 916.443.7401 · *Facsimile:* 916.552.7596 · www.calhospital.org
Corporate Members: Hospital Council of Northern and Central California, Hospital Association of Southern California, and Hospital Association of San Diego and Imperial Counties

CTEC
CALIFORNIA TELEMEDICINE
& eHEALTH CENTER

April 27, 2007

Mr. Kevin J. Martin
Chairman
Federal Communications Commission
445 12th Street SW
Washington DC 20554

Dear Chairman Martin:

As the Executive Director of California Telemedicine & eHealth Center (CTEC), I am pleased to endorse the University of California's Application for the Federal Communication Commission Rural Health Care Pilot Program (FCC Pilot Program).

CTEC is a statewide resource center focused on developing the telemedicine and eHealth technological expertise of California health care organizations and providers through capacity building, training, education, networking and regranting for rural eHealth networks. The FCC Pilot Program will work hand-in-hand with our mission of expanding telemedicine and eHealth in California by working collaboratively with hospitals, clinics, county and state agencies, federal and state legislative policy-makers, community-based organizations, and other nonprofit entities throughout the state.

I hope that you will give strong consideration to the University of California's Application to the FCC Pilot Program. Their success in telemedicine speaks volumes about their ability to achieve the common goal.

Thank you for the opportunity for compete for federal funds and provide assistance to those individuals living in the state's rural areas, giving them the access to healthcare that all people should have.

Sincerely,

Lois M. Suder
Executive Director

LMS:ag

1215 K Street, Suite 800 Sacramento, CA 95814 ▪ (916) 552-7679 PH ▪ (916) 552-7526 FAX ▪ www.cteconline.org

CPCA
California Primary Care Association
Health Care Access for All

May 1, 2007

Mr. Kevin J. Martin
Chairman
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Dear Chairman Martin:

California Primary Care Association (CPCA) is pleased to support the application of the University of California for the Federal Communication Commission Rural Health Care Pilot Program. CPCA represents more than 650 not-for-profit community clinics and health centers in California that provide comprehensive, quality health care services to primarily low-income, uninsured and underserved Californians. CPCA recognizes that telemedicine, particularly in California's rural areas, is a key delivery system that must be expanded and supported to provide high quality, timely, and cost-effective care at community clinics and health centers, along with other rural health care providers.

The University of California application represents a broad and unprecedented collaboration of public and private entities to address the challenge of improving health care delivery systems through expanding our broadband network. We strongly support the University in providing leadership for this project and are confident that University's experience with telemedicine will make this a highly successful project.

California's primary care clinics in rural areas will benefit greatly from the implementation of the FCC Pilot Program. CPCA, representing these safety net health care providers, looks forward to working with our partners in California in a successful collaborative effort to bring broadband connectivity to all California rural providers.

Sincerely,

Carmela Castellano-Garcia, Esq.
President and Chief Executive Officer

CALIFORNIA STATE
RURAL HEALTH
ASSOCIATION

3720 Folsom Boulevard, Suite B • Sacramento, CA 95816
Phone: 916.453.0780 • Fax: 916.453.0783 • www.csrha.org

Committed to preserving and enhancing health in rural California

May 5, 2007

Mr. Kevin J. Martin.
Chairman
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Dear Chairman Martin,

As Executive Director of the California State Rural Health Association (CSRHA), I am pleased to endorse the University of California's Application for the Federal Communication Commission Rural Health Care Pilot Program (FCC Pilot Program). The California State Rural Health Association (CSRHA) is a nonprofit, nonpartisan, grassroots organization that works to improve the health of rural Californians and the quality and accessibility of the health care they receive. CSRHA brings together health care providers, consumers, educators, researchers, public health and economic development agencies and others to work on a variety of issues related to preserving and enhancing the health of rural California.

The accelerated deployment of broadband telecommunication technologies in California, specifically for use in telemedicine, is one of the top priorities of CSRHA. The FCC Pilot Program will complement and add value to our State's Health Information Technology and Broadband Initiatives, which encourage public and private sector stakeholders to join with California's rural health care providers in developing a strategy for the creation of a statewide telemedicine network.

Together with an investment from the California Emerging Technology Fund, the FCC's funds will make quality health care more accessible to Californians living in rural areas. Many of the challenges in rural health arise from limited access to core health care services. Lack of access to healthcare may mean that appropriate treatment is delayed or deferred, causing unnecessary hospitalizations, higher costs, and greater disability and personal suffering. Health information technology (HIT) provides powerful tools to enhance access to comprehensive, quality healthcare services in the most geographically isolated areas. HIT can assist rural providers to better coordinate services for their patients by bridging distances and providing immediate access to clinical knowledge, specialized expertise, and services otherwise unavailable in rural areas.

Please consider the submission from the University of California as the State's Application to the FCC Pilot Program. The University has a strong record of success in the area of telemedicine and is best suited to work with public and private sector stakeholders from throughout the state to achieve our common goals.

We appreciate the opportunity to compete for federal funds that will provide much needed assistance to those living in California's rural areas and enable California providers to make our state's medical expertise available to rural areas throughout the Nation.

Sincerely,

Catherine Martin, Executive Director
California State Rural Health Association

CITRIS Center for Information Technology Research in the Interest of Society

CITRIS HEADQUARTERS
284 HEARST MEMORIAL MINING BUILDING
BERKELEY, CALIFORNIA 94720-1764

www.citris-uc.org
Phone: (510) 643-2200
Fax: (510) 642-1800

May 4, 2007
File Number: 07-011

Mr. Kevin J. Martin
Chairman
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

RE: Support for FCC Rural Telemedicine Infrastructure Grant

Dear Chairman Martin:

On behalf of the Center for Information Technology Research in the Interest of Society (CITRIS), I am writing to express my support for the Proposal from the California Telehealth Network in Response to the Rural Health Care Pilot Order (FCC 06-144). The planned activities resonate well with future plans at CITRIS, especially in our recent research and engineering initiatives in healthcare and telehealth, and I fully endorse your proposal. We further encourage leveraging the rural network for public services needs such as disaster preparedness, emergency response, academic research, public health, and health distance education.

Recent influential reports from the Institute of Medicine, National Academy of Engineering and private foundations have noted the promise of telemedicine and the remote provision of care, and we fully and enthusiastically support work to improve the State of California's infrastructure for Telemedicine. As a four-campus (UCs Davis, Berkeley, Santa Cruz, and Merced), California State-funded Science and Innovation center, and the only one dedicated to information technology broadly defined, the history of CITRIS is punctuated by partnerships that benefit the State of California and it's people.

As you know, CITRIS applies fundamental research in information technology, broadly defined, to many societal-scale problems, including energy, health care, services, disaster response, environmental monitoring, among other topics. Our work on healthcare and research into its future, the technologies of remote care, and technologies for rural and emerging regions will help to extend, sustain, and innovate the capabilities of the rural telehealth network, and we look forward to supporting your efforts and collaborating where appropriate. We also look forward to helping you engage those of our industrial partners interested in the remote provision of care, both by making them aware of this project, and by bringing them to help sustain and innovate in remote provision of care.

Sincerely,

Professor S. Shankar Sastry
Director,
Center for Information Technology Research
in the Interest of Society
284 Hearst Memorial Mining Building # 1764
Berkeley, CA 94720-1764

CC: Executive Director Ravi Nemana, Services: Science, Management & Engineering (CITRIS)